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On Paralytic and Convulsive Diseases of the Cerebro-Spinal System, including Epilepsy, its Physiology, Pathology, and Treatment. By H. P. DeWees, M.D., New York.

[Read before the Medico-Chirurgical College, March, 1861.]

Gentlemen—On retiring from the chair, at the meeting held at Dr. A. B. Mott's, I offered for the subject of discussion, "Epilepsy, its Physiology, Pathology, and Treatment." As the habit in this College is to read a preliminary paper, I shall occupy your time only with such views as have been more recently propounded by others, and with the conclusions and results derived from my own observations, rather than by the repetition of more ancient surmises, which were founded on no scientific investigations, and which therefore offered no rational deduction for treatment.

But after considering in what manner I should treat the subject so proposed, numerous difficulties arose as to whether it should be merely taken up by a rigid adherence to the matter itself, or whether a more general and broader outline, embracing other connections and disorders,

but which are not unfrequently precursory concomitants, or subsequent complications, would not be profitably adopted. I have concluded upon the latter, and beg that you will excuse a more discoursive entrance into the subject, than a mere logical adherence to the matter would permit; since epilepsy is a disorder starting from many points of induction, although the chief seat of its objective phenomena is encompassed in a strict regional boundary—the medulla oblongata. Yet, to understand in what manner this cranio-spinal portion of the cord becomes the great focal point of radiation in the manifestations of this terrible disorder, a knowledge of its central actions, and of its reflective enlistment, whether from the conducting nerve-fibres of the brain and spinal cord, or from the various viscera and periphera, is highly essential.

Therefore, in a disorder implicating so many conditions of the sensific, motor, and psychical apparatus of the body, a clear conception of their reciprocal relations, as well as of their independent action, is necessary, in order to comprehend their disturbances, either as direct sequences, or as indirect manifestations in the course of the epileptic disorder. By this comprehension the nature of the disease will be more clearly unfolded, the premonitory symptoms will become more instructive, and a nearer approach to a scientific therapeutical conduction can be made.

In searching for the seat or cause of any disorder of the motor nervous system, the objective phenomena should be correctly classified. A single muscle, or groups of muscles, may be affected, either by central disturbance in the ganglionic cells themselves, or by their incitement to action through eccentric or reflex conduction. This reflex incitement may reside peripherally, extra-cranial, or spinal; or, it may arise within the cranium, or in the cord itself. For instance, the point of irritation may be seated in any part of the superficies, or it may reside in the posterior spinal columns, and thence be reflected to the associated ganglionic motor origins in the anterior or true motor columns. When intra-cranial, the point of irritation may lie either in the cerebrum proper, whereby its conducting fibres are implicated, or in those portions in which the psychical manifestations originate. Every irritated sensory fibre can induce or increase reflex sensibility of the cord, by centripetal action.

In these conditions, two things are to be remembered. The motor centres may be in a normal state themselves, the inciting condition being anormal; or the conducting fibres may be in a true physiological state, whilst the motor ganglionic cells may be overexcitable, or by

pertrophic either as to number, by which the amount of muscular action is exaggerated; or as to inherent irritability or excitability, by which the force is proportionately overgenerated.

This hypertrophic excess bears an inverted proportion to the opposite condition—viz., the atrophic. In the former, an undue supply of arterial blood may serve for the increase; or, the supply being normal, some special constituent of the blood may be in excess, or defective in quality, by which nutritive energy or functional manifestation is exalted. But, both these latter conditions are not unfrequently established, independently of any peculiar blood composition, through an irritable or overexcitable state of the conducting fibres.

In nervous atrophia, the opposite exists. The arterial blood may be insufficiently or defectively supplied, whereby the organic products are stinted, or rendered inert, although the cerebral impulse may be healthy. These states are instanced by those in whom the order or will is greater than the power or execution. Another form of atrophia is found in the executive portions of the nervous centres, from the impeded or impaired condition of the conducting fibres, or of the psychical portions of the brain. Here the motor centres fall into the peculiar changes incident to parts whose functions have been long abrogated, and which may be termed the *abuse of disuse.*

It is in these latter, particularly, that a paralytic state may exist in the structures deriving their nerves from these atrophied centres, whilst a convulsive, spasmodic, or tetanoid condition of the associated or consensual parts exists, especially when the muscles thus partially paralyzed are endeavored to be acted on by the will, the impulse being distributed through those ganglionic cells giving origin to the nerves going to the associated muscles. Reflex causative action, both peripheric and cerebral, may happen in several ways. The impression may be conveyed through the peripheral sensory filaments of the paralyzed muscle or limb to the motor centres, or it may excite involuntary contraction in the sound limb, but which can be more or less restrained by the voluntary action of the brain; or the organic system may be excited, producing static changes in the various viscera, with spastic retention or expulsion of their contents, &c.

Although these various manifestations of the nervous system relate more to the multiform states of paralyses, yet the comprehension of the anatomical dependencies and physiological relations is all-important in the study of many nervous disorders, and especially of epilepsy. But I shall endeavor, in the physical details, to mingle as much physiological and pathological result from disordered regional action as

will relieve the tedious tension of the mind, which is so apt to accrue from mere anatomical description.

The medulla oblongata is the additional intermediate organ between the spinal cord and the brain. And, in advance of entering on the subject, I will here state that this intermediate portion is without doubt the seat of the chief objective phenomena of epilepsy. From this point of radiation the muscular disturbances ensue; and whether the *punctum saliens morbi*, or point of irritation, be in the brain, spinal marrow, mucous or cuticular surfaces, yet the phenomena constituting the fit of true epilepsy must arise in great measure from the engagement of the medulla oblongata, or from its being centrally affected.

In the medulla oblongata, as in the spinal cord, a median furrow exists, interrupted by a decussation of fibres below the pons varolii. Internally, on each side of this furrow, arise the pyramidal bodies, which extend into the pons varolii. Externally, are seated the corpora olivaria, which do not extend into the pons, but are separated from it by a deep sulcus. Each olivary body is connected to its fellow by intercommunicating fibres, which arise from the ganglionic cells, to pass through the raphe of the medulla oblongata; whilst the nuclei for the hypoglossal nerves, on which the motions of the tongue chiefly depend, are in close apposition to these bodies on their respective sides. These latter nerves take their origin from a large number of multi-polar ganglionic cells. The corpora olivaria are thus anatomically connected, and become physiologically auxiliary to the hypoglossal nerves, whereby certain lingual motor combinations are effected. It may be well to remark here, that the olivary bodies do not exist in fishes, or in the amphibia, whilst in the lower mammalia they are more or less rudimental.

In other words, these bodies are developed according to the two great functions of the tongue—viz., combined movement and articulate speech. The hypoglossal nuclei lie close to each other, near the raphe, their simultaneous action being secured through fibres of intercommunication. By a like arrangement, the corpora olivaria are acted on bilaterally. The hypoglossal intercommunicating fibres are limited, so that unilateral motions of the tongue can be voluntarily excited. But, for the combination necessary for articulate speech, the bilateral harmony must be insured. Hence, in hemiplegia, paralysis of the movement of the tongue, differs from that of the combined consent for articulation and the sustained action of speech. The orders of the will must be communicated simultaneously to both olivary bodies, to secure their harmonious engagement, and that of both hypo-

glossal nerves. In deglutition the same conducting influences must be preserved.

Sustaining the results of direct experiment are the records of pathological investigation, showing that the corpora olivaria are frequently found in various morbid conditions in paralysis attended with loss of speech. And more confirmatory are the researches establishing, in cases of congenital atrophy, or of arrested development and growth in these bodies, the coincidence of aphonia, difficulties of deglutition, and more or less loss of command of the tongue. Cases have also been reported, and have been examined by myself, in which loss of speech resulted from inflammation of the pons varolii, as well as of the corpora olivaria. In the former, neuralgia is generally a prominent symptom.

But these ablations of special functions are not to be always attributed to lesions of these bodies, or of the associated hypoglossal nerves, since the defects of muscular consensual performances may be confounded with absence in the mental conception of language and memory of words; or with those lesions implicating the traditional action of the will, as when the striated bodies are impaired, and which are attended with paralysis of motion of other portions. Injuries to the anterior frontal cerebral lobes, especially, are apt to be followed by what is commonly termed imperfection or loss of speech. But in these cases the conception of language, or rather of ideas *for* language, is more impaired than the power to execute is destroyed. Nor must those cases where both the conception and the olivary function are not disturbed be confounded with those in which the *conducting fibres* are exclusively at fault. In several cases falling under my own observation, I have found that the patient could not voluntarily communicate his thoughts by speech, although the reflex movements of the tongue were perfect; yet he could do so by writing, indicating an interruption through the conducting fibres, but showing that the *conception* of language was intact. Again, I have witnessed the imitative or repetitional actions perfect, without corresponding conception; thereby evincing the integrity of the conducting fibres and of the corpora olivaria, but showing that injury to the originating sensorial portions of the brain had taken place, as was afterwards verified by post-mortem examination.

Traumatic injuries of the frontal bone, whereby the anterior portion of the cerebrum has been compressed or otherwise temporarily injured, have not unfrequently resulted in loss of speech, which has

been in some cases restored by surgical aid, or by the recession of the local disturbance.

These cases indicate the ablation of the conceptional power within the brain, and not of the capacity of performance through the olivary bodies and hypoglossal nerves. For although articulate speech is lost, yet the *voice* can be excited through reflex actions of the various surfaces, and especially by those attended with severe pain. But these centres, during long-continued arrest of the cerebral actions, are liable to fall into pathological changes, or into a physiological proportion of functional relation. Hence softening, fatty, or atrophic degeneration, induration, &c., occur, whereby not only the voluntary, but the reflective actions are lost, or rendered feeble. Even if the injury of the anterior lobes be recovered from, yet the olivary bodies are apt to undergo certain transmutations, which may abrogate their function, in accordance with the law which governs the propagation of consensual morbid states in organs correlated in function, or from the more general law which regulates the reproductive energies in parts functionally reciprocal.

The congenital cases of the deaf and dumb cannot all be placed to arrest or imperfection of development in fœtal life. The injuries sustained during labor by the anterior lobes from mechanical pressure of the pelvic bones, or by the instrumental or digital manipulations, must be taken into consideration. Nor need we expect to find a direct traumatic lesion, or its indication, when examining the brain in such accidental cases; since the pressure so exerted may merely induce a change in the molecular constitution of the impinged-on lobes, by which their nutrition is disturbed. And the same may happen to the posterior occipital region, whereby the medulla oblongata and its auxiliary ganglia, the pyramidal and olivary bodies, may be damaged, since the position of the parts are constantly varying, according to the flexed or extended position of the head. In some of these cases, a mere physiological atrophy is apparently established; as, in course of time, both hearing and speech become more and more established; differing in this progressive recuperation from pathological degeneration, in which there can be no improvement. Aphonia, alternating with sudden return of speech, is not uncommon in hysterical cases; but when accompanied by persistent hemiplegia, either in the male or female, some cerebral lesion must be concluded on. In one gentleman, whose voluntary command of deglutition and of speech was constantly varied from trivial indistinctness and inability to complete loss, I found, after death, a tumor in the pons, which pressed more or

less, according to the vascular condition, on the medulla oblongata, whereby the functions of the auxiliary ganglia, the olivary and pyramidal bodies, were interrupted. In this case, the legs and bladder were at times greatly paralyzed, probably from the interference with conducting fibres in the pons, and from the pressure exerted on the pyramids, whose function apparently presides over the movement of the extremities. There was also intense neuralgia.

Visible alterations or encroachments on the cerebro-spinal structures do not always appear on autopsical examination, to account for losses of function of their various parts. The changes are those of molecular nutrition, at times scarcely recognizable by the microscope. Yet in many such cases neither proper conception nor power of speech has been destroyed, but the memory of words and of their combination is lost. When spoken to, they are slow of comprehension, or are totally deprived of intellectual translation. Yet they will imitate the sound, or sometimes repeat like an echo a portion of the spoken sentence. It is, so to speak, a paralysis of memory, and not of the organs for speech. In others, I have witnessed a complete loss of memory of the customary language, with perfect return of another for years unemployed and forgotten. But these effects are not, generally, from special cerebral disorder, although I have seen them in the hemiplegic. They happen mostly as consecutive complications in diseases of other organs. But, when happening, they are generally prognostic of fatal issue. The temporary exchange of one language for another, arising from traumatic injury, or from fever, with cerebral engagement, must not be confounded with those just cited. In the case of a young medical gentleman from Georgia, who had suffered from the effect of deep cellular pelvic abscess, accompanied by delirium, and had been ignorantly bled into deliquium, followed by violent mania, I found that he had lost the memory not only of his language, but also of his parents, friends, and letters. His education had to be begun again, from the very alphabet, and for months he made but slow daily progress. One morning, on rising, like a flash of light, all returned to him, and the comparative imbecile of the night before became the son of science once more.

Injuries to the olivary body are apt to be followed by more or less paralysis of the facial nerve, through which the expression and motion of the corresponding side of the face are interfered with, as the superior portions of the olivary bodies are connected with the seventh pair of nerves; whilst the inferior are connected with the hypoglossals, which may be included in the lesion, producing great difficulty o·

speech, &c. On the floor of the fourth ventricle the facial nerves are reciprocally connected, and are united to other ganglionic groups—viz., the trigeminal, which lie between the auditory and seventh pair. To the corpora olivaria thus belongs the power to express by the movements of the face the various passions. Paralysis or section of the first branch of the fifth destroys the reflex excitement for winking on *touching* the eye; yet it may be excited by the impression of a strong light on the optic nerve, after section of the fifth, arising apparently from a connection between the roots of the optic nerves and the nuclei of the seventh pair.

The anterior spinal columns pursue their course into the brain, through the pyramidal bodies. Injuries to these bodies are attended with muscular disturbances of the extremities. The lateral columns of the spinal cord do not pursue their course into the brain, but terminate in the medulla oblongata. They are brought into action by the pneumogastric nerves and by the orders of the will. These lateral columns preside over the movements of the trunk. Hence, in hemiplegia from cerebral hæmorrhage, whilst the muscles of the side opposite to the lesion are paralyzed, the movements of the chest remain intact. From the intimate junction of the vagi nerves with the fifth pair, and the connection of their nuclei with the longitudinal fibres constituting the upper portion of the lateral columns, any irritation applied to them will bring into action the muscles of the chest and abdomen. During ordinary respiration, the normal stimulus of the carbonic acid upon the peripheral portions of the pneumogastrics is conveyed to the lateral columns and phrenic nerves, by which the combined movement of the chest, diaphragm, and abdomen is established.

When the stimulus is persistent to these columns, and through them to the medulla oblongata, the muscles of the chest become fixed as in tetanus, and respiration may be fatally stopped. The descending longitudinal fibres convey the orders of the will to the centres of respiration; so that, although ordinary breathing is due to reflected stimulus, yet voluntary acceleration or retardation of the respiratory acts can be obtained. Hence we can understand how, in certain cerebral hæmorrhages attended with palsy, that although ordinary reflex respiration continues unobstructed, yet it may remain uninfluenced by the orders of the will, from the injury to the higher conducting fibres. In hemiplegia from decussative cerebral disorder, voluntary inspiratory efforts fail to excite equal dilatation of both sides of the chest; not because the respiratory centres themselves are

damaged, *but because their action can be only unilaterally invoked.* These independent sources of respiratory conduction form, at times, a valuable basis of diagnosis.

It is to be remembered that the medulla oblongata consists (or at least partly) of the longitudinal fibres derived from the cerebrum—that is, from the corpora striata, thalami, and crura cerebri—so as to connect them with the ganglionic groups from whence the nerves of the medulla oblongata arise, in order to convey to them the orders of the will. Other fibres also leave the medulla to ascend to the seat of perception in the gray cerebral matter. The olivary bodies thus become the instruments of the voluntary acts of deglutition, even after the reflex sources from the trigeminus are interrupted. The act of swallowing, voluntary or reflex, to be correctly performed, requires a bilateral adjustment of the necessary muscles, and therefore the bilateral integrity of the corpora olivaria is essential.

Although the medulla oblongata is generally called a continuation of the spinal cord, yet there are numerous other parts which either originate in it, or are derived elsewhere than from the cord. The pyramidal bodies are to be considered as the prolongations of the anterior columns of the spinal cord; decussation of their fibres taking place before they enter the medulla oblongata, to pass through the pons varolii as the four principal columns, which serve, according to Van der Kolk, for the regulation of the extremities. There are also transverse filaments rising from the medulla oblongata, which unite the two halves, and serve to insure its bilateral action, for the movements of the face, tongue, larynx, and chest.

We will now call attention to the numerous ganglionic cells contained in the gray matter of the spinal cord. From these cells in the cortical substance originate the nerve-fibres, which do not pursue, as formerly supposed, (until refuted by Ehrenburg and Remak,) a direct course through the spinal cord to the brain. These ganglionic cells are connected in groups, in harmony with the *anatomically prearranged* muscular groups, by which, from a stimulus applied, co-ordinated or consentaneous movements are insured. If this stimulus is diffusive, or has a peculiar affinitive property of acting on other cells, either associated or disjoined, the groupal movements will vary from simple motion, to convulsion or spasm. And this excitative or depressive influence may be communicated directly through the blood, or through the will, or by reflective excitement. The carpo-pedal spasms of teething children—the circulation or local absorption of certain poisons, as in hydrophobia, or in the special affinitive actions

from strychnine, woorara, &c., &c., are instances of these conditions. Some forms of cerebral affections, wherein the will is preternaturally exercised through certain channels, and of hysteria from utero-ovarian irritability, whereby reflex actions are propagated, are proofs of the direct as well as of reflected impulsion.

The ganglionic cells are more numerously collected in those depots from whence the larger muscular groups receive their innervation. The medullary matter or nerves act merely as conductors of the impulse so excited in the ganglionic cells. This power, being conducted to the muscles, either adds to, or excites into action, the inherent contractility of the sarcous elements.

It has been established by experiment, as also from symptoms during disease, that pain is not excited on transverse section or erosion of the gray matter of the spinal cord. The motor fibres for the extremities lie in the anterior columns, which are continued into the pyramidal bodies, and extend into, or receive fibres from, the brain; whilst the anterior portions of the posterior columns are received into the restiform bodies, or the peduncles of the cerebellum, whereby these bodies are endowed with sensibility. These lateral columns, as before stated, preside over the motion of the trunk. The posterior pyramidal and restiform bodies are probably derived from the cerebellum, and terminate in the medulla oblongata, by resolving themselves into numerous transverse fibres, through which the co-ordinate impulses are conveyed. But the anterior spinal columns do not merely give origin to the motor nerves. They probably receive organic filaments from the stomach and other viscera. It is well known, from vivisection or other special injuries to the anterior spinal columns, that these organs are apt to undergo certain pathological changes; whilst, from morbid irritation of the sympathetic filaments in the viscera, spinal complications have resulted.

As the pyramids pass and divide in the pons varolii a portion of the cerebellum, the transverse arched fibres passing to the restiform and pyramidal bodies probably form the conductors of the action of the will for co-ordination of movement. Pathological inquiry confirms this view: as, in injury to the cerebellum, the power of voluntary bilateral adjustment has been observed to be injured; although involuntary or reflex harmonization, as in yawning, leaping, &c., may ensue, either in the muscles whose nerves issue directly from the medulla oblongata, or in those from the spinal cord; whilst injuries of the pons varolii are found to coincide with loss of motor power of the extremities, as in hemiplegia, paraplegia, or crossed palsies, where the right

arm and left leg are affected. In cases of tumor or other growth pressing on, or developed within the pons, the symptoms vary from convulsion to irregular paralysis; or from paralysis of a single member, to the engagement of two or more, according to its extension, or the accidental vascular conditions of the surrounding parts. These may be accompanied by neuralgia or aphonia, dysphagia or vesico-renal derangements, from encroachment upon, or by irritation of, the medulla oblongata. These conditions I have seen verified on autopsy, and possess the specimen from one case.

In diseases affecting the structural integrity of the spinal cord, reflex actions not only occur, but are apt to become exceedingly troublesome, as the anterior and posterior nerve-roots are closely connected on the same level. In spinal paraplegia induced by softening, partial tabes, dissecting abscess, &c., reflex actions may be excited by tickling the foot, or by acts of defecation or urination, &c., although all direct voluntary command is lost. In some instances, the *act* of coition can be performed, although the *sensation* may not be transmitted to the brain, from the solution of continuity of the conducting fibres. Of this singular condition I have known several instances. Others, again, can only cause their muscles to contract by the voluntary effort being first excited through sight. They walk awkwardly, with their eyes constantly viewing the ground, so that the brain can be informed of the necessity for voluntary action, but they fall if their sight be interrupted, or if left suddenly in the dark; since the transmission of the impression on the soles of the feet is annulled, by which either the cerebral perception for voluntary progression is destroyed, or by the reflex actions becoming uncontrollable and purposeless. From these causes, I have known such sufferers ignorant of the position of their legs or arms when in bed at night, or at table, and who could not *rectify*, although they might *change*, their positions when wishing to do so, unless the sight could be employed for the direction. These cases are generally hopeless, and require great care in their conduction, as troubles from the bladder, rectum, and kidneys are apt to complicate the disease; whilst troublesome abscess or posture sores are of frequent incurrence. Some die, worn out by the mere local derangements of function making such vast drafts on the constitution; whilst others, in addition to these, exhibit cerebral extension, resulting from the severe efforts of the brain in effecting voluntary movements, by which more intercellular albuminous fluid is effused, productive of fibrillar atrophy, and its special results; or of softening, inflammatory or non-inflammatory, with disturbances or exaggeration

of intellect, varying from the incipient stages of mania to complete dementia or idiocy.

Although the chief seat of reflex motor action is in the spinal column, yet the brain exhibits like reflex conditions, both sensory and motor. Nor is the cerebro-spinal axis in itself merely subject to these states, as the nervous centres of organic life, from their connection with the spinal cord, may have induced in them reflex conditions, attended with disorder of secretion and nutrition. It is not uncommon, from injuries to the spine involving sensation and motion, to find the various internal organs disordered in function and changed in structure.

Most of the manifestations of cerebral function appear to be unilateral above the level of the medulla oblongata. Hence local hæmorrhagic effusion, softening, tumor, specific or other structural alterations of one hemisphere, or corpus striatum especially, induce unilateral decussative paralysis. Strictly localized *irritation* in a hemisphere may result in unilateral spasm or convulsion, unless abnormal irritability of the medulla oblongata exists at the same time, by which a bilateral action is propagated into those parts served by the nerves of that region, through its transverse fibres, or the commissures between the nuclei of the nerves, or their trunks, as in the facial, hypoglossal, &c.

The termination of the spinal sensific nerves is not in their point of entrance. They proceed upward, to terminate in the medulla oblongata. Nor do they penetrate into the gray matter of the anterior horns, the true seat of motor energy, or into the posterior horns of gray matter which appear to preside over the reflex and combined movements, and whose ganglionic cells give rise to the sensory nerves of the spinal cord. But the posterior sensory columns terminate in the medulla oblongata, and perhaps, according to recent investigations, partly amongst the group of ganglionic cells above. Hence the medulla oblongata is to be viewed as the seat of sensitivity, whilst the brain is the seat of perceptive sensation. The insensitivity of the brain proper, in its normal state, is known to every experimenter and operative surgeon.

From this arrangement for the reception of the descending and ascending cerebro-spinal fibres, the medulla oblongata becomes the focus of radiation of sensory impressions.

Although the fifth nerve is, in its thicker portion, termed a nerve of sensation, yet we must not allow ourselves to be led astray in reference to the true function of the nerve itself, and its terminations. These serve merely to convey the impressions received to the

medulla oblongata and the centres originating higher up, that the brain may exercise its function of perception. For the medulla oblongata can only be viewed as the seat of sensation when in connection with perceptivity. When the influence of the brain is cut off, the medulla oblongata becomes the seat of excitability or sensitivity. Wherever the filaments of this portion of the fifth are distributed upon an organ of special sense, the peculiar function of the part is heightened or lowered according to this relative condition. Hence we find that either taste, facial touch, smell, hearing, or sight, are influenced more or less in injury of its branches, independently of the alteration of certain secretory or nutritive actions. The fifth nerve then becomes a nerve *for*, rather than *of*, sensation. Its influence over secretion does not appear to depend so much on its own special endowment, as from its reticular connection with the organic filaments, although a reflex motor protection to the secretory surfaces is essential. Hence, severe injury or section of this nerve high up, may result in destruction or sloughing of the parts supplied by it.

The olfactory, optic, auditory, and gustatory nerves are called nerves of special sense; yet, in themselves, they do not convey to the brain the full measure of their functions for its perceptibility. This is effected through the fifth, which is everywhere distributed over the portions receiving the impression. Hence, injuries to the branches, or to the roots of the trigeminus, are always more or less attended with alterations of one or more of the perceptible functions of the organs of special sense. During insensibility, arising from pure cerebral causes, the organs of special sense may remain intact. The eye may be open and perform its office as a mere optical instrument; the ear and its special nerves may receive the sonorous vibrations, yet the focal point within the brain being disturbed, the measure of their impressions is lost. It is in this special condition of relation between the inner world of perception and the outer world of mere manifestation of function, that the sensific branches of the fifth pair hold so prominent a position.

The ganglionic cells of each organ of special sense differ from one another, and although their physical or functional actions may be correctly performed, yet the sensory transmission of the results of their peculiar offices appears to depend chiefly on the accompanying filaments derived from the fifth pair. And this special preparatory registration for cerebral interpretation seems to reside in the gangliaform vesicles, near the tactile papillæ or sensitive surfaces, and partly in the ganglia themselves, since destruction of the first of these especially, by cauterization, sloughing, or pressure, interferes with the per-

ceptive manifestation of the sense special to the part; surgical as well as experimental operations prove this, whilst medical records attest the same. My attention to the influence of the fifth pair over retinal sensitivity, and the nutritive actions of the organs of special sense, was attracted in 1843, by the results attending an accident to a lad at that time. He received a wound from a clam-shell, which accidentally cut completely through the supra-orbital branch of the fifth. Dimness of vision in the eye of that side immediately followed, whilst in the course of a few months a hard cataract formed, by which the eye was entirely blinded. In this case, I was early struck with the fact of the immediate injury to vision following the section of this branch of the fifth. It was too rapid to attribute it to alteration of nutrition, and hence I looked upon the disorder of sensory relation as the most prominent; whilst the nutritive changes, probably through injury to the accompanying organic filaments, were effected more slowly.

An impression generally exists that the brain becomes first affected during the administration of anæsthetics, by their absorption in substance into the blood. This opinion is only partially correct, as proved daily by the phenomena. All the upper portions of the peripheral nerves directly subjected to the influence of the anæsthetic agent during inhalation, become more or less rapidly impressed, by which a retardation of impressional conducting power is induced, in advance of the effect upon the brain. This, in very many cases, is consummated slowly. In some persons, the intelligent perception of surrounding circumstances remains; they can answer questions, rectify their positions voluntarily, and are conscious during the operation of not suffering pain. These conditions obtain mostly in superficial operations of parts supplied by the fifth pair of nerves, and which can be rapidly performed. In the operation on parts possessing sensory nerves from the spinal system, the absorption in substance of the chloroform or ether into the blood has to be effected. And even here, it is not always essential to carry the administration to the extent of submerging the brain. Held in the blood, the anæsthetic bathes every fibril of the nervous system, rendering both local conduction and central perception more tardy and less acute. With lying-in women I have communicated intelligibly, and have been assured that they were perfectly conscious of the uterine efforts being without pain. In these cases, the arrest of conduction resembles that produced by tumor or pressure on some portion of the tract of a sensory nerve. If, however, the etherization is carried beyond the point of local anæsthesia

to saturation, the whole brain becomes deadened, the respiratory functions decline, whilst the natural surfaces of the lungs cannot eliminate from the blood the agent which is already surcharging the brain, and which, in its retardation in the bronchial extensions, still further increases the non-conducting condition of the pneumogastric terminations, through which the necessity for aeration is communicated. Hence the central power for inhalatory movements and the peripheral impression for supply are both lessened. In some patients, this local or nervous inconductibility does not apparently precede the loss of perception. Unconsciousness is first established, whilst reflex muscular movements become greatly exalted. These are frequently mistaken for manifestations of pain, as cries are sometimes uttered and purposive actions are apparently effected. But these latter are mere groupal co-ordinations, and are similar to those seen in vivisections, where the cerebral lobes have been removed. During the complete cerebral anæsthesia the individual may revel in fancies or dreams. The brain, except in the power of outward manifestation, is active beyond its usual wont; it is æsthetic to every internal pleasure, but anæsthetic to every pain. Oftentimes, this brain revel is distorted by incomplete remembrance into apparent reality on awakening, and has given rise to statements which have resulted injuriously to the operator.

When the anæsthesia is complete, every fibre and ganglionic cell of the sensory spinal columns and of the fifth pair are locked in impassibility. Reflex muscular impressibility becomes more and more obtuse, till the respiratory centres are paralyzed, and death may stand imminently near. Yet, during all this approach of apparent dissolution, those organs whose reflective actions in part depend on the nerves of organic life still perform their duty. Nutrition is not entirely arrested. Secretions pour forth, and the uterus expels its contents. Sometimes, from the inequality of the anæsthetic effects on the right or left divisions of the sensory nervous system, or from some error of the central equilibriation, one side may be inertly relaxed, whilst the other may be convulsed by reflex action.

In this light, the fifth pair, in their thicker portion, must be viewed as nerves of connective relation between the automatic sensitive centres of the medulla oblongata and the upper irritable districts, and the perceptive cerebral lobes. These special relations of the trigeminal nerves, in their connective central manifestations, can be best studied in animals without distinct cerebral lobes, or during the progressive developments in the human embryo, in whom the basilar contents of the cranium begin first to be evolved. In acephalous monsters, although

the fifth pair may be anatomically distributed to the surfaces, as instruments of impressional translation, and of excito-respiratory action, yet they do not convey any true sensation, any more than is perceived during the anæsthesia from chloroform. Although such brainless children may cry when pricked or otherwise irritated, it is merely the cry of reflex vocal action, and not of voluntary rêsponse from perception. In other words, they may cry because they were pricked, but not because they were pained. In the normally growing fœtus, the cerebral hemispheres are developed subsequently to the basilar portions with intercommunicating fibres, whose office it is to submit the impressions received to the proper seats of perception, and to convert the mandates of the will, or the phenomena of the higher cerebral functions, into sensory manifestations.

From the views expressed above, a nearer approach to the interpretation of many of those remarkable and so-called mysterious phenomena witnessed in cataleptic, ecstatic, somnambulic, and like states, may be arrived at. In one, all power of voluntary motion may be lost, although the perception of impressions may exist, attended with reflex movement or not. In another, the power to will is intact, but the conducting fibres are paralyzed; whilst in a third, only such tracts are exalted which convey feelings and expressions of the highest ecstasy.

Of such conditions I have seen many examples. I have seen it even affect the person unilaterally, one side being willing to move, as she would say, whilst the other could not be persuaded to follow! In most of these so-called nervous cases, there has not been found, on examination, any definite structural changes to which they could be attributed. Not even to the microscope has been revealed any marked anormality of texture or of conformation. We have, then, to conclude that a specific influence has been exerted by some anormal condition in the nutritive fluids, as known to exist in many internal disorders, and in others, induced by external administration; or, that there has been a molecular perversion of the nervous masses themselves.

As molecular changes occur by the minute incidences of the rays of light, thrown from the surrounding objects upon the staff-like bodies of the retina through the auxiliary optic nerves and tubercula quadrigemina, so does every molecule of the transmitting ganglionic vesicles and in the recipient sensory centres change, in order to record upon the perceptive portion of the brain the impressions that have been received. This property of molecular variation may be likened

to that produced by the changing beads in the kaleidoscope, in which new forms are registered upon the eye at every movement. The beads remain the same, but new figures are induced at every change of position.

Through the sensory portions of the trigeminus the varying conditions of the acts of the nerves for special sense are rendered more acutely and rapidly to the seat of perception, independently of the fibres which pass from their central nuclei to the brain. In this respect the action of the fifth pair is similar to the application of the galvanic pole by the daguerreotypist to the reception-plate in the camera, by which in an instant of time the impression is etched. It is very certian that in themselves, the mere nerve-filaments exercise no influence beyond their power of conduction, the transmutations and combinations ensuing in the ganglia and ganglionic central cells. Through the same conducting channel travel pleasure and pain, which in many instances are but variations in degree; whilst through the same cerebral filaments traverse the orders of intelligence or the wild impulses of insanity. As, in written language, the alphabet becomes its molecular basis for intelligible combination, so in the nervous system molecular perturbations convey the results to the centres of motion and of perception; and these perturbations are focalized upon, and translated by the special recipient organs, according to their inherent properties.

The recognition of this principle is of more importance than at first would be supposed, since it gives a definite substantiality for the actions of thought, in place of mere metaphysical conjecture. Nutrition, as cognizable to us, is but molecular substitution—innutrition is molecular subtraction. Disease, whether from tumor, misplaced structural constituent, or subtle poison, from without or within, is but the cumulative evidence of molecular abnormities, be it in brain or ganglion, fluid or solid. For as there is a law of conformity, so is there one for inconformity. Oscillatory or perturbatory actions doubtless attend every corresponding impressional change in the nervous substance, attraction or repulsion ensuing in each ultimate particle, according to the laws governing the regulation of affinities. And these affinitive changes, and their results, are either normal or anormal, typical or atypical; healthful relations attend one, whilst deviations from the sound standard follow the other.

By this method of studying and comparing the natural processes with those inducing disease, a sound scientific basis can be attained. For it is to be remembered, that pathology is but perverted physiology. They stand to each other in the organic world as do right and wrong in the moral world.

The causes working disease are to be recognized—the cumulative evidences of its seat, or of its progress, are to be rigorously scrutinized, in order to detect the individuality of the agent, as men know the type of the bird or beast by examining its nest or lair, and can attract or repel, either by supplying or denying the materials necessary for their habitation. But neither nest nor lair describes the natural habits or configuration of the animal, or would make it known when seen. They must be studied and compared together. Hence, in disease, the natural phenomena are to be contrasted with those perverted or destroyed. The accidental, as well as the precursory organic changes as discovered on autopsy, are to be carefully separated.

In no disease are the autopsical findings more unsatisfactory than after fatal epilepsy. Although expert cerebral anatomists have clearly stated the results of their examinations, yet the essential causes of the disorder remain latent. Gross anatomical lesions are confounded with causes. The vital phenomena of the normal condition, their correlations and their irrelations, are yet too little comprehended to be able to define sharply the post-pathologic additions by the act of epilepsy, from the proximate lesions. The same apparent deviations from normal structure are daily discovered in the brain, and other structural portions of individuals, in whom the departure from the normal vital phenomena have totally varied. Ossific deposits in the dura mater or falx cerebri, enlargement of the Paccionian glands, stalactite or osteophyte growths from the base or dome of the cranium, tumors, tubercles, local or diffusive softening, induration, changes of consistence and color, aneurismatic pressure, hæmorrhage, congestion, or so-called vascular inflammatory changes, with exudation or transudation, arrest of development or local hypertrophy, plethora or anæmia, and a host of other pathological abnormities have been found, and set down as causes both of the symptoms and of death, in the cases examined. Yet these same lesions have been found, where neither insanity of perception, sensation, or of motion has attended, or were in correspondence with, the symptoms.

In the brains of the epileptic or maniacal, in whom other losses of function especially attended, many morbid conditions are at times discoverable on autopsy, and as yet no pathologist has clearly defined those findings in their relation to cause and effect. The laws which govern pathologic sequences or co-regulate morbid structural deviations, through mutual incongruities of assimilation, or through corresponding retrogression of cell-action, have not been kept rigorously in view, whilst the differential degrees between reparative excess and

reparative deficiency, or between the deposits of compensation or those of encroachment, have not been pointed out.

It is true that many expert cerebral pathologists can predict the nature and the seat of the morbid changes to be discovered on autopsy. They can foretell that inflammation, degeneration, or certain depositions will be found, and they can lucidly detail the results of the disease; yet it is equally certain that, with all their meritorious research, they have thus far failed to know for themselves or to teach others the differential morbid conditions between the proximate cause and the results. Nor, with all the knowledge gained by experimental study of the normal vital phenomena, has treatment advanced in successful antagonism to the morbid action, or with helpful assistance to the processes of reparation. Their labors so far have indicated the inutility rather than the utility of the treatment adopted; so that the remedial basis is at this day more of restriction than of active interference. Experimental as well as clinical observations, however, have shown that, as far as certain objective phenomena extend, they may be produced by, or are incurrent with, opposite conditions of the system. Thus, convulsions and other nervous manifestations may attend the reverse states of plethora, anæmia, &c.

The premonitions of the epileptic attack are various. They may issue from the organs of intelligence, of sense, or from the centres of locomotion or of function. So regular are these premonitions in some, that they will quietly announce and prepare for the convulsive stage. Others will exclude themselves, and pass through the attack unobserved. Unnatural conditions of taste and smell may afford timely intimation, or noticeable disturbances of vision and hearing may precede the seizure. The organic system in some is at fault, and evinces, by insufficiency or derangement of secretory action, the antecedence of the nutritive disturbances to the muscular engagement. Excessive or decreased micturition, sometimes accompanied by scalding; salivation or buccal dryness; acrid discharges from the nostrils or bowels; bitter, unsavory regurgitations, or seminal discharges, with or without dream, may give unerring signals to the afflicted.

Psychical changes more or less rapidly ensue in others. There is a misconception of time, place, and space. Errors of impersonation, or of the relative condition of rest and motion, occur, wherein all self-identity is lost, or others are clothed in unreal forms. Many are filled with visions of happiness for themselves, whilst they see their friends doomed to unutterable woe. Passions dormant during health, or restrained by moral force, burst forth with uncontrollable violence,

with risk to themselves or others. The timid become brave, the gentle become murderous, or the conscientious become unscrupulous and surreptitious. There is no phase of the human mind that may not either precede or follow the attack, and the knowledge of these conditions is most valuable in forensic as well as in clinical medicine.

In others no such warnings exist. The loss of consciousness is immediate, whilst convulsive struggles pervade every muscle; or beginning with facial distortion, extend regularly from the upper to the lower extremities, whilst the trunk is writhed backward and forward, or from side to side. Frequently the loss of consciousness is preceded by facial spasm or drawing of the head to either shoulder, whilst the shriek, so peculiar to epilepsy, announces the reflex engagement of the larynx and chest. Many dash rapidly forward, or run staggeringly backward, and fall violently on the face or occiput. In others a twitching of the muscles, with gradual rigidity of the limbs and trunk, precede for a second or two the more manifest tension of the muscles of the neck, by which the large venous channels are more or less impeded, whilst the glottis rises high towards the chin with a stridulous noise, produced by the reversed action of the diaphragm and by the intercostal muscles, from the increasing demand for air. The eyes protrude, or are moved from side to side, or upward and downward, with inconceivable rapidity, whilst the lids are opened or shut with spasmodic quickness, or are widely retracted. The mouth is distorted, the teeth are ground crushingly together; a thick foam is shot from the lips by the explosive contractions of the diaphragm, or it wells over the chin, streaked with blood from the bitten tongue. The integuments of the head, face, and neck are gorged with venous blood; the head is drawn rigidly back on the upper portions of the occiput, raising the shoulders in an arch from the ground, whilst the respiration is short and struggling from the tetanic fixing of all the muscles of the trunk and of the glottal aperture. The heart throbs violently; the bowels and bladder may be evacuated, and not unfrequently semen is ejaculated. Some die at this time of the fit from the fixing of the respiratory muscles; whilst in others, the high carbonization of the blood appears to subdue the nervous centres, and relaxation of all muscular tension ensues. The respiratory movements languidly recommence; the heart becomes less wild; the swollen veins assume their natural calibre; the countenance becomes pallid, although disfigured in some by dark ecchymotic effusion from the ruptured capillaries; whilst the mouth is relaxed, and the swollen, lacerated tongue fills its cavity. This is the "grand mal" of the French. The re-

newal of the fit may ensue suddenly, the duration varying according to the exhaustion of the nervous centres, and the contractile condition of the muscles themselves; or the interval may last from hours to months. Sometimes the injudicious and busy interference of the bystanders may again arouse, by reflex actions, the irritability of the centres, and fit after fit may be repeated, which otherwise, by cautious rest, might not have been excited.

In some attacks, when the spasms are about to relax, the involuntary muscles especially, and functions which were held in antagonistic submission, may evidence, by an overexcited physiological condition, their participation in the disorder of the nervous centres; vomiting, or other evacuations, hoarse, spasmodic coughing, screaming, phrenzied exclamations, or mad ragings, alternating with ecstatic vociferation or sputtering garrulity, may ensue. In others, the muscular paroxysms cease suddenly, and the brain instantly reacts. The previously distorted face becomes calm, the limbs assume positions of languor, and the patient, as though suddenly awakened from sleep, with a look of bewilderment repeatedly asks, "What it is all about!" when, admonished by the wounded tongue, and by the exhaustion of the aching muscles, he becomes conscious that he has just passed through an attack. Others, again, gradually emerge from unconsciousness into sleep, and many times are ignorant of having gone through the fit; or they pass from stupor into the heavy stertorous sopor of the apoplectic, which, after a time, again blends itself into calm and refreshing sleep.

The intervals between the attacks vary. Sound and vigorous health is enjoyed by some, whilst others, passing their time in constant dread, become peevish and irritable, or dull, morose, and selfish, with evident alteration persistently accruing in the cerebral functions. The temper becomes uncontrollable, thoughts explode as it were in the brain, and drive the unfortunate victim into expressions and acts beyond his power of resistance.

The epileptic attacks, by which the nutrition of the brain was first deranged, may cease in frequency, leaving the memory permanently weakened, or the higher intellectual faculties completely sapped. In others a reverse condition may ensue. The irritability of the reflective centres apparently subsides, whilst exaggeration of the cerebral functions increases. The memory and intellect assume greater power and vivacity, till the very confines of insanity are reached. But suddenly the attacks, which had been submissive to the irritation accruing in the upper brain, burst forth again; whilst the mind loses its excitement and tenacity, and debility bordering on general loss of volun-

tary motion or power pervades the body. A mid condition of these two states sometimes exists. There is an alternation betwixt insanity and epilepsy. The irritability of the intercommunicating fibres takes place, so that from any undue action in the brain, either of anger, joy, or fright, or from any unusual amount of muscular expenditure, paroxysms of insanity or of epilepsy may alternately ensue.

It appears impossible to discover in some cases of epilepsy what are the disturbing or exciting causes. But whatever may be the errors in secretion or of nutrition, it is necessary that the medulla oblongata should be in an already irritable state, or that this condition should be readily impressed. The centripetal points of irritative induction vary not only in different cases, but even in the same case. And where this impressible habitude exists in the medulla oblongata, or in the irritable districts above, a mere touch, especially when the conservative actions of the brain are withdrawn, as during sleep, or during intense application to any one thing, will serve to bring on the attack, the patient leaping, or rather springing like a fish, out of bed upon the floor. A misstep which either shocks the spinal column, or from apprehension calls suddenly on the co-ordinative regulation of the muscles, will sometimes be sufficient to induce a paroxysm. In one or two cases falling under my notice, the patients have stated that they were conscious of the commencement of the convulsive stage before losing their recollection. Others will say that they were "conscious of having become unconscious." In one case of this kind, this brief condition was rapidly followed by violent intertwining of the feet and legs, accompanied by grinding of the teeth, and with tumultuous action of the heart before sleep, or in the morning as just waking.

It is from their relation to paralysis, insanity, or imbecility, that the culminating issues or sequelæ of epilepsy become so anxiously interesting to the physician, and so fearfully dreaded by the patient and his friends. In no disease are the relations between the corresponding or associate functions of the brain more strikingly defined than in epilepsy. In the early conditions, either in childhood or more advanced life, idiocy may attend. The injury by which the intellectual functions are amerced may or may not induce paralysis. The result is as much a matter of situation, as of condition of nutrition. But when, with the early mental insufficiency, there exists muscular invalidation merging from complete paralysis of voluntary motion from certain destructive causes, into muscular atony from arrested cerebral development, or from defective nutrition, then the recognition of the laws mentioned in the foregoing portions of this paper must be made, in order to arrive at

therapeutic as well as at diagnostic conclusioms. Although it is true that many idiots are neither paralytic nor epileptic, yet it is equally true that these conditions are sometimes combined. And the same pathologic correlations exist in the deaf and dumb, (the statistical data of which I am ignorant.) But of the generalization of the law I am certain, having under my knowledge wherein, from intermarriage, epilepsy, insanity, paralysis, and idiocy exist in the same family. Thus seeming to prove that diseases are as progressively related as are the successive developments followed out in the animal creation. In the individual, diseases are intercurrent or consecutive; or they are non-intercurrent, and sometimes antagonistic. Of this every experienced physician and surgeon must have seen examples.

During the attack of epilepsy in those previously paralyzed, the phenomenon of convulsive movement may occur in the limbs, which had been long immovable by the orders of the will.

Sometimes an individual is attacked by cerebral paralysis with epileptiform convulsions, which may sooner or later assume or merge into the periodic seizures of epilepsy. In these cases, it is not uncommon to find either great hebetude or irritability, which may gradually pass into meaningless idiocy, partial dementia, or acute mania; and these resultants may accrue from mere physical causes, or from direct morbific extension, or from some deviation in the integral nutrition of several special portions of the cerebral lobes. This deviation of nutrition may be marked as hypertrophic or atrophic; or it may be only recognizable by the objective changes in color, softness, or density. They may coexist with inflammation, with intercellular albuminous exudation and fibrillar displacement or adhesion, attended or not by membranous implication.

These conditions are not merely persistent in those in whom epilepsy has followed an apoplectic seizure with paralysis. They may also be found in those in whom the epileptic phenomena have preceded the apoplectic. In minor degree they may accompany epilepsy alone, being probably as much resultants from the intercranial disturbances caused by the convulsive efforts, as from any peculiar morbid action. In some epileptics, the cranial bones are found thickened and eburnated, whilst bony excrescences from mere roughness to exostosic growths, from the vault or base of the skull, may encroach on its contents, and become sources of irritation or of progressive disease. Commonly, ossific deposits exist in the dura mater and falx cerebri.

The convulsions occurring during childbirth are, in many instances, epileptiform. The reflex sources from the irritative propagation

through the uterine nerves especially are sufficient of themselves to induce convulsions. But owing to the immense demand on the function of the medulla oblongata by the fixing of all the muscles of respiration during the propulsive strainings, the conditions which have been referred to as inductive of epilepsy may be established. If the medulla oblongata has been already irritable or impressible, convulsive movements are more readily induced. Besides these regional disturbances, certain changes at times occur, not only within the brain, coincidental with the uterine development apparently in some, and during the parturient efforts in others, but also on the inner portions of the skull itself. These changes are the exostosic impingements found on the inner cranium of puerperal women. The changes within the brain are mostly vascular, or from intercellular albuminous effusion. The paralytic conditions after childbirth, as well as the convulsions or eclampsia during or before birth, are at times attributable to these states. When costal exostoses take place, the various neuralgic pains or local spasms are referrible to their irritation of the neighboring nervous filaments.

In the other cases, previously referred to, the vascular changes vary from lessened or obstructed calibre to aneurismal dilatation. In some the corpora striata, the thalami and cerebellum, have been found extensively diseased or evidencing hæmorrhagic changes, which have, by their impairment of function, indicated their lesions previously or coincidentally with that of the medulla oblongata. As above remarked, during the epileptic attack the limbs that were paralyzed for voluntary motion may be convulsed, and the face, whose expressionless apathy masked every emotion, may start into spasmodic life and purposeless motion. In the aphonic, the voice, long unused to articulation, may issue in wild shrieking, from the reflected action of the medulla oblongata. The sensific centres, both spinal and cranial, may be premonitorily affected, and before consciousness is lost may agonize the sufferer with unbearable pain, till the suffocating spasms, by inducing anæsthesia, destroy all perception, whilst the body is writhed in every possible contortion by the violence of the reflex actions.

Although by many epilepsy is considered to be attended by unconsciousness, yet from my own observations this opinion is to be received with reserve. Epilepsy, like other disorders of innervation, has its degrees; and although unconsciousness may attend or usher in the convulsive stage in most severe attacks, yet I have seen cases in which the spasmodic muscular exhibitions were most powerful, without the perception of the surrounding conditions becoming effaced. It is true that the nervous centres of motion, being so engaged by the action of

the disease, they cannot be made amenable to the orders of the will, yet the perception of this condition may be manifest to the patient.

The varieties of the attack greatly depend on the anatomical seat of the affection. In some, the involuntary or reflex expressions of the passions merely take place; the upper portions of the corpora olivaria, which are connected with the nuclei of the facial nerves, being the demonstrative seat. It may embrace the nuclei of the hypoglossal, causing the tongue to be convulsively moved. In others, there may be mere spasm of the extremities, from irritation or lesion of the corpora pyramidalia, extending into the anterior spinal columns, or from some congestive irritation of the corpora striata. The objective symptoms may be the resultants of the combined states just mentioned, or there may be merely partial spasm from regional exclusions; and these regional exclusions have lately been pointed out by Van der Kolk, in his observations on those patients who bite or do not bite the tongue, to which reference will be hereafter made.

The influence of the medulla oblongata over the calibre of the minute vessels, especially through the vaso-motor nerves, by which the supply of blood to the whole brain is diminished or increased, is not to be forgotten. And here, although the primary conditions were in this upper spinal portion, yet the immediate objective symptoms are of apparent cerebral origin, since vertigo and loss of consciousness are the only recognizable conditions.

(To be continued.)

Diphtheria—An Unsuccessful Case of Tracheotomy, and a New Method of Treatment, Exemplified by Four Cases. By JNO. O. BRONSON, M.D., late Professor of Anatomy in the New York Medical College.

The many methods which have been followed in the treatment of the disease under consideration seem, as far as my observation leads me, to be possessed of no very distinguishing characteristics one over another.

The one prevailing idea is, the evident prostration and the seemingly necessary tonic course to be pursued. The results which have followed my efforts in the treatment of the disease, governed by this idea, have been so unsatisfactory, that I have been led to mark out and pursue an entirely opposite course. In the cese first mentioned, and in which tracheotomy was performed, the tonic course was pursued, and, as in nearly all previous cases, without a favorable result.

CASE A. *Tracheotomy Performed.*—On Sunday, December 23d, 1860, I was called to see one Daniel Horgan, æt. 4 years and 7 months. He had been ailing for about a week, though running about until the day previous to the summons. He had had a cold, and complained of a sore throat, for which his mother had given usual domestic remedies, without any good effect. She therefore sought advice.

The little fellow was suffering with an inflammation of the mucous membrane of the pharynx and larynx. Diphtheritic patches were developed upon the tonsils and on the posterior wall of the pharynx. Prostration severe. Pulse 126. I prescribed tinct. ferri mur. and quiniæ sulph. To the inflamed parts argent. nitras., in solution, was applied.

On the following day, the little patient was not less prostrated. The diphtheritic exudation had extended but little, if any. The treatment was continued, and wine whey ordered.

25*th*, (*Christmas Day.*)—Called at 8 A. M., in response to renewed summons. Patient much worse. Prostration extreme. Great obstruction to the respiration. Fauces completely lined with exudation, which had undoubtedly extended into, and perhaps beyond, the larynx. Pulse 146.

Believing my only hope to be in tracheotomy, I proposed the operation, which was acceded to by the mother.

Having obtained assistance, at ten and a half o'clock I again visited the patient, prepared to operate. The lips and countenance of the little patient, by their livid hue, betokened early suffocation. Assisted by Messrs. J. E. Steele and F. G. Stanley, medical students, I performed the operation speedily, with but trifling loss of blood, and with immediate relief to the patient. A considerable quantity of false membrane found exit through the wound, and after the introduction of the tube, the child soon began to rally, and seemed better than for the two days previous.

Potass. chloras, quiniæ sulph., and brandy were prescribed. At 3, and again at 9 o'clock, observations were taken, and he had improved. Respiration easy. Expectoration of tenacious mucus very considerable. Pulse 130.

26*th*—*Morning.*—Slept well most of the night. Respiration free. Expectoration as the day previous. Pulse 126. The treatment continued.

Evening.—Condition generally as in the morning Expectoration, however, diminished. Pulse 130.

27*th*—*Morning.*—Expectoration much diminished. Respiration labored. Symptoms like those present previous to the operation ap-

pearing; pulse 140. It is evident that exudation has produced the fatal membrane in the bronchial tubes.

Evening.—Further efforts deemed unavailing.

28*th.*—Died at five A. M.

Examination fourteen hours post-mortem. Rigor mortis complete. In laying open the thorax, the lungs did not collapse; pulmonary emphysema general. Larynx, and portion of the trachea above the point of entrance in the operation, completely filled with false membrane. The portion of trachea below the above-mentioned point exhibited an ulcerated condition. The bronchial tubes, as far as into the fourth bifurcation, were lined with the characteristic exudation, at many points to the extent of entirely closing the canals. Upon making examination of the wound, there appeared to be no secondary exudation.

Case B. *Adult.*—On the second day of January, 1861, I was called to see Mrs. C., a native of this city, æt. 30. She had been sick for several days, and was getting worse. She was of a weak habit. I found her with a flushed face, hot skin, sore throat, and anxious expression; pulse 145. An examination of her fauces evinced the presence of diphtheritic membrane on both tonsils, and on the palate.

Having concluded previously to institute a new method of treatment upon the presentation of the next case of the disease, I prescribed as follows:

R.—Tinct. aconit. rad., ℥ss.
Aquæ puræ, ℥iv.
M.—Sig. Cochl. parv. quâque horâ sumendus.
R.—Ammoniæ mur., ℥ij.
Aquæ pur., ℥vj.
M.—Sig. Garg. quâque duo horis utenda.

On the 3d, I found the patient improved to this extent—skin cool, pain much diminished, deglutition much easier; pulse 120. Treatment continued.

On the 4th, still more improved; pain but slight, skin natural. One small spot of exudation three-eighths of an inch in diameter present in the fauces; pulse 98. Treatment continued.

On the 5th, throat entirely clean. Inflammation entirely gone. Aconite to be taken only once every three hours; the gargle as before, every two hours; pulse but 80.

On the 6th, the condition of the patient such, that tonics and stimulants could be used with hopes of success. I therefore prescribed as follows:

R.—Quiniæ sulph., ℈j.
Ferri sulph., xij.
Ext. nucis vom., gr. vj.
M.—In pil. xx. div. Sig. Unam ter in die capiat.

Wine whey, and such articles of solid food as desired, ordered to be taken.

From this time onward, everything progressed most satisfactorily, and the patient was discharged in a few days.

CASE C. *Adult.*—On the 17th of January, but a few days subsequent to the preceding case, I was called to see Mrs. P., also a native of this city, æt. 58. The condition of the patient was very similar to the condition of the previously cited case. She had not been so long sick, and I found the diphtheritic exudation on the left tonsil to be less dense than elsewhere. It presented the appearance of a frosted spider's web, and seemingly was more tenacious than that fully formed.

The prescription was identical with that used in the preceding case, and the result was even more perceptible. In thirty-six hours the membrane had entirely disappeared. The pain, which at first was present in the throat, was banished at an earlier period than in Case B. The after-treatment was identical in character and in result.

CASE D. *Infant.*—On the sixth of February, 1861, I was summoned to the bedside of a little girl, the daughter of Mrs. D. The condition of the child was very similar to Case A, but with less laryngitis; pulse 150. Hoping to meet with like effects from the use of the same remedies used in Cases B and C, I prescribed the aconite, with this modification: (the patient was but three years and six months old, and consequently could but receive a proportionate dose of the aconite, with any hope of success.)

℞.—Tinct. aconit. rad., gtt. vj.
Aquæ, ℥jv.
M.—Sig. Cochl. parv. quâque horâ capiat.

The gargle was used as a lotion, by means of a probang, not diluted.

On the 7th, a great part of the exudation had disappeared from the fauces. The pulse of the patient had diminished to 105, and in every other respect improvement was evident.

On the 8th, the pulse had come down to 90, and the throat was perfectly clean. A diminution of all the symptoms was present, and everything betokened a result similar to the preceding cases. With wine whey only as a tonic, I was pleased to find the little patient put on its wonted strength, and assume its former health.

CASE E. *Adult.*—I mention this case because it resembles the cases marked B and C, in respect to time and the disappearance of the exudation.

On the first of March I was called to see a young lady, æt. 20, a na-

tive of France, having been in this country about eighteen months. The general condition of the patient was more extreme than that of the aforementioned cases. Skin hot, dry, and flushed; throat swollen and painful; diphtheritic exudation present on both tonsils, and on posterior wall of pharynx. Pulse 153.

I considered the aggravation of the symptoms attributable to the torpid condition of her bowels, which had existed for some time. I prescribed ten grains of blue mass to be given at once, and followed in eight hours by six ounces of the solution of the citrate of magnesia. As soon as the bowels were freely emptied, the same remedies prescribed in case B were ordered. In thirty-six hours the patient's condition was such that I felt that the remedies were almost specific. In forty-eight hours all exudation had disappeared from the fauces, and the pulse, from 153, had come down to 85. All pain had left the throat, and one small spot alone showed signs of inflammation. On this spot I applied a piece of the sulphate of copper, simply as a stimulant. It was probably not necessary. On the following day all symptoms of anything like *disease* were gone.

I prescribed as follows, the patient seemingly having a sufficiency of iron in her system:

R.—Quiniæ sulph.,	℈j.
Zinci valerianat.,	℈j.
Ext. nucis vom.,	gr. vj.
Aloes socot.,	gr. v.

M.—In pil. xxiv. div. Sig. Unam ter in die capiat. Wine at dinner made up the complement of directions, and in three days' time all evidences of disease or debility had disappeared.

It would afford me much pleasure to have introduced a larger experience in the treatment of infants after this mode, yet I believe that the early and agreeable change which followed in the one case reported so similar to the adult cases, is evidence of almost a uniform result. We are all well aware that the system bears up better under, and reacts quicker from, a condition of depression, than of excitement. I deem the constitution of children poorly prepared to bear the stimulus and tonic remedies usually administered in the treatment of diphtheria, and if called upon to give testimony in reference to the matter, I should, from my convictions, be obliged to say, that I believe many succumb to *treatment rather than to disease.*

A Case of Hysterical Cough. By JOHN PRIESTLEY, M.D., New York.

Mrs. W., aged forty years, married fourteen years, has never had a child; temperament nervous; color florid; general health moderately good; rather deficient in intelligence; eccentric in her habits. She has a singular manner of repeating several times in succession the same sentence; as, for instance, after making a remark, and before there is time to answer it, she will repeat the identical words three or four times in rapid succession, her conversation being mostly carried on in this style.

During the winter of 1860, and also in the month of February of this year, she was subject to a peculiar cough, which I find difficult to describe, so as to be understood. I have found no recorded case which presented any description similar to it. It was neither a cry nor a laugh, but something between the two. It was extremely painful to listen to, and was so severe as to disturb the whole house. At night, when the streets were less noisy, she could be distinctly heard in the street, and the sound was so loud as to alarm the neighborhood. The annoyance finally became so great that she was obliged to leave the house and go to a more secluded part of the city.

Upon examination, I could detect nothing abnormal about any of the organs or their functions. Auscultation over the larynx, trachea, and thorax revealed nothing. The respiratory sounds were regular and natural. There was no expectoration, and when the paroxysms had ceased, she felt perfectly well. The cough at times was very persistent, so that she was quite fatigued from want of sleep. When free from cough, her digestion was good, skin and pulse natural, no headache. During the paroxysms of coughing, however, there were symptoms of suffocation; the face became deeply suffused, eyes protruding, expression of countenance anxious and beseeching, and the hand was carried to the neck, as though there was an impediment to the breathing in the larynx and trachea. Altogether, at the time of the paroxysm, the case seemed one of the most urgent.

Not having met with a case in any respect resembling it, and the patient being opposed to a consultation, I treated her in a manner as I thought was required by the character of the symptoms. I administered in succession the various antispasmodics, with and without tonics, applied croton oil, and empl. lyttæ over the thyro-cricoid region, and in turn used every remedy I could think of which seemed to offer any plausibility in its administration. My attendance upon her continued

in this manner three weeks, without resulting in any relief. The paroxysms still continued, and the strange, shrill, screeching noises, night and day, became a terrible thing for her friends and neighbors.

The curious habit of repeating the same words over and over again, the apparent deficiency in her intellectual faculties, a vacant stare of the eyes, and receding forehead, gave her a decidedly idiotic manner and appearance.

I could learn but little of her early history. All the information I could get from her husband, who was not a very observing man, was, that he had never known her to be sick; that she had never had convulsions, or any nervous disease, such as are manifested in epilepsy or chorea. From these data, and other inquiries made concerning her, I could not satisfy myself as to any direct or indirect cause for the curious symptoms presented in her case.

The sensations experienced by her during the paroxysms were, she said, those of suffocation. While the paroxysm lasted, she would grasp the larynx with both hands, and then the symptoms I have described would occur—the flushed face, the protruding eyes, and peculiar cough. This would last for half an hour at a time, and, with short intervals, would continue, principally at night, from 10 P. M. to 6 A. M.

Presuming, from the train of symptoms, that the sensory or superior laryngeal nerve was more or less associated with the sense of suffocation and cough, I thought that an application of a strong solution of nitrate of silver, made to the root of the tongue, the rim of the glottis, and lining membrane of the larynx, might be of service in allaying the sensitiveness of these parts, and I accordingly applied it, of the strength of ℥j. of the salt to ℥j. of water. The first applications immediately reduced the number and violence of the paroxysms, and after four days' application, morning and evening, the distressing symptoms were completely removed.

In February last, one year after the first attack, she was again seized with exactly the same symptoms, without any known exciting cause. I at once cauterized her throat and larynx with the same strength of the solution of nitrate of silver as before, and succeeded in overcoming the cough after the third application. She still remains quite well, without any renewal of the cough.

The exciting cause of the paroxysms still remains unknown to me. There is no disease of the larynx, trachea, or lungs, for the moment the paroxysms cease, the voice becomes clear and natural, the respiration quiet and normal. Nor is there any disturbance upon the

part of the digestive organs, no dyspeptic symptoms; the appetite being good, the tongue clean; no headache, nor flushing of the face, except during the paroxysms of coughing. Menstrua regular, and, so far as I could ascertain from close inquiries made of the patient, positive absence of any uterine troubles. I made no vaginal examination. No tenderness nor apparent disease about the spine.

In the absence, therefore, of any intelligent cause for the curious and urgent symptoms presented in this case, I was forced to classify it among the anomalous nervous manifestations, and consequently applied such therapeutical resources as the antispasmodics and tonics afford, but without any favorable result. From these I experimentally passed to local applications to the larynx, which happily relieved my patient.

Transactions of the Medical Society of the County of Kings.

MARCH, 1860.

Absence of Epiglottis—Deglutition Normal. By DR. ENOS.

Mrs. M., æt. 33. Had been in good health till three years since, when she had inflammation of the fauces and larynx. She was attended by Dr. Batchelder, of New York, who applied a solution of nitrate of silver; she having come to reside in this city, was still attended by Dr. B. I saw her first about two weeks before her death. She was quite weak—could only speak in a whisper. This loss of voice had been, so she said, for two years, and was not owing to weakness, but to disease of the larynx. Respiration now was difficult; both inspiration and expiration prolonged, labored, and noisy. She had some cough, and was nervous. No enlargement of the larynx externally, and no tenderness on pressure. The stridulous respiration prevented a satisfactory examination of the chest. An asthmatic wheezing seemed to pervade the lungs throughout. Chest resonant; she had a little fresh bronchial cough, and raised some mucus. Dr. B. saw her with me at 2 P. M.; she was no worse, apparently; in the evening I was sent for, and found her dead. The mucus was poured out more rapidly; this, together with the small larynx, caused her death by suffocation.

Post-mortem examination showed an entire absence of the epiglottis, caused, doubtless, by ulceration, as there was a hardened cicatrix in its place, at the end of the hyo-epiglottic ligament. The same hard, uneven structure existed in the place of the epiglottidean

folds, which were wanting. This same hard, knobbed, and contracted condition extended into the ventricles and laryngeal pouches. The true vocal cords and the aretenoid cartilages had also been so changed by the disease as to diminish much the area of the rima glottidis. The aphonia is accounted for by the inability of the larynx to perform its normal functions, and the dyspnœa by its diminished capacity. An acute inflammation was found to have existed in the mucous membrane of the trachea and bronchi.

She had had no difficulty in swallowing either solid or liquid food. This case illustrates, therefore, the physiological fact that the epiglottis is not necessary to prevent food from entering the larynx in the act of deglutition. It is well known that birds have no epiglottis, and that dogs and other animals, from which the epiglottis has been purposely removed, have no difficulty in swallowing either liquids or solids. This closure of the glottis in deglutition is mainly effected by the contraction of the inferior constrictor muscle of the pharynx; being inserted into the posterior border of the thyroid cartilage on either side, its contraction approximates these sides, thereby closing the chink of the glottis, at the same time food is forced on towards the stomach.

There was no evidence that the disease was syphilitic.

REGULAR MEETING, APRIL 25TH, 1860.

DR. MARVIN reports a continuance of an epidemic false measles—rubeola sine catarrho—in which the eruption resembles precisely that of true measles, and is attended with sore throat and a slight fever. The cases terminate favorably in about five days. Has no relation to true measles, occurring as well in those who have previously had measles, as in those who have not. Has never seen sore throat so prevalent as during the present season. More or less cases of *scarlet fever* constantly under treatment.

DR. MITCHELL also reports a large number of similar cases coming under his own observation. Also of sore throat, attended with fever and redness of the skin, somewhat resembling scarlet fever, and during the first two days not distinguishable from that disease. The disease terminates in from three to five days, and does not appear to be contagious.

Also, an epidemic sore throat with fever, the febrile symptoms running high during the first two nights, (in children, at times amounting to delirium,) and then gradually subsiding, the patient being about on

the fourth day. He has also seen several cases of scarlatina, in which, generally, the amount of *eruption* is much less than usual.

DR. DUDLEY reports a case of measles occurring a second time in the same patient, attended with choryza, cough, and the usual catarrhal symptoms of true measles. Dr. Marvin inquires whether the eruption appeared first on the face, and gradually extended over the body, or whether it appeared over the whole surface at once. This character had not been observed, and it was suggested that the appearance of the eruption in the throat would be diagnostic between true measles and false measles, with catarrhal symptoms from cold.

DR. DUDLEY mentioned the occurrence of cases of pneumonia, but of a mild character, and yielding to simple measures. Also, a case of scarlatina supervening upon whooping-cough, in which the spasmodic cough was relieved on the supervention of the eruption; when the scarlatina subsided the whooping returned.

DR. MARVIN related an instance in which a father, mother, and sister, in one family, had small-pox. An infant of eight months, nursing the mother sick with the small-pox, was vaccinated every day for sixteen days, but without success. *The infant took neither the kine-pox nor the small-pox.*

DR. MITCHELL related a case of insusceptibility to kine-pox in a young lady, sixteen years of age, whom he vaccinated three times without success. The patient then informed him that she had been vaccinated a great number of times, but always unsuccessfully; that the operation had been repeatedly performed in Boston, New York, Philadelphia, and Charleston. The patient was taken to a child who had been vaccinated five days previously, and the virus transferred directly from the arm of the child to that of the patient, *resulting in a perfect vaccination. Virus taken the fifth day after vaccination is more active than when taken later*, and if used before it has time to become dry, will communicate the disease where there is any susceptibility to it.

DR. NORTH reported four cases of diphtheria, which were followed by *paralysis*, still further retarding the *usually prolonged* convalescence in this disease. In one case there was hemiplegia, with the loss of sight of one eye. In the other three cases defective locomotion, the patients complaining that they could not prevent "stumbling," though they felt well and strong otherwise.

As to *treatment*—tonics and stimulants internally were found most useful.

DR. BRADY used as a gargle and topical application to the throat,

hydrochloric acid, chlorate of potash, and calomel dusted upon the part. Dr. Smith used the muriated tinct. of iron, in full strength, with the sponge probang. Dr. North had used with good result the tinct. of iodine to the throat with the probang.

Dr. SCHAPPS asked if scarlatina was epidemic, stating that he had some cases. Drs. Leighton, Hawley, Brady, Smith, and North were attending cases, and supposed it to be on the increase.

DR. NORTH asked whether it was not an unfavorable symptom in scarlatina, when an eruption of a "*measley*" form appeared, stating that he so considered it, and invariably stimulated his patients under such circumstances, without waiting for further developments. Dr. Brady, in answer, gave a brief history of a case as follows: a little girl, 3½ years of age, well fed and nourished, was lately taken with the general premonitory symptoms of scarlatina, such as great thirst, heat of skin, redness of throat and tongue, accelerated pulse, &c., &c., yet with no delirium, and no apparently serious symptoms, other than an *extremely anxious countenance.*

The second day a large "*measley*" eruption made its appearance, other symptoms as before.

Third day, morning, pulse 110, throat quite sore, but on the whole apparently better; at half-past one P. M. same day, pulse the same as in the morning, skin hot, but moist, intellect *clear*, child spoke pleasantly and naively to the Doctor as he entered, and appeared to be doing well. But in about three hours she aroused from a somewhat restless sleep, seeming troubled and uneasy when she was taken up by her mother, and suddenly expired.

The treatment had been mild and *expectant*, and the death was wholly unlooked for.

A Case of Strangulation of a Multilocular Encysted Ovarian Tumor with Rupture of the Cysts, and Escape of Contents into the Cavity of Peritoneum. Reported by DR. JAS. CRANE.

I was called on Wednesday, the 21st of December, 1859, to attend Mrs. ———, in her third labor. Up to this period, she had been in apparently excellent health. During the preceding night she had been restless, and frequently changed her position from one side to the other. At 5 A. M. she was suddenly attacked with pain in the left iliac region, which she described as agonizing in character, and extending down the left thigh, and across the supra-pubic region. When I visited her at 9 A. M. she was lying upon the left side, and I found that any movement of the body aggravated her sufferings. Her labor

was just then commencing, and all things proceeded naturally and regularly. The countenance was flushed, but the pulse, skin, and temperature were natural. Indeed, nothing unusual was noted, excepting the pain in the left iliac region, which gradually disappeared as the labor progressed. She was safely and easily delivered at 5 P. M., at which time there was no tenderness or local uneasiness discoverable. I remained with her some two hours, during which time she continued to be quite comfortable, except from the occurrence of an occasional after-pain.

December 22d, 9 A. M.—The patient passed a quiet night; countenance cheerful, and pulse natural. My attention was arrested by the size of the abdomen, it being larger than before her delivery. Percussion everywhere elicits loud tympanitic resonance. No special tenderness upon pressure. I was informed that the same apparent condition of the abdomen followed the delivery of the last child, and it gave considerable uneasiness to her physician in attendance at that time. It did not wholly subside for some three months. The lochia are abundant. After-pains are of moderate severity.

December 23d.—Patient had a restless night; pulse 144; distention of the abdomen is increased; resonance upon percussion clear everywhere; complains of no pain in the back or extremities, but of a general "soreness or bruised feeling." By supporting the walls of the abdomen, these sensations are much relieved. The countenance is natural; lochia likewise, and abundant. No secretion of milk; tongue slightly coated. The temperature of surface is pleasant, and there has been no rigor or chilliness.

Directed hot fomentations, sprinkled with turpentine, to be applied to the surface of the abdomen, and terebinthinate enemata.

℞.—Hydrarg. prot. chlorid., . . gr. xij.
Pulv. gum opii, ... gr. iij.
M. et ft. massa in pil. iij.
Sumat unam pilulam quoque hora tertia.

To be followed by

Ol. ricini,
Ol. terebinth., . . . äää., ℥ss. M.

2 P. M.—The patient expressed herself as being very comfortable, and free from all pain. She is quite cheerful. Skin natural; pulse 120. Enemata were administered; but little gas was expelled.

8 P. M.—General condition of the patient the same; pulse 136. Dr. McClellan was now called to visit Mrs. C., but no well-grounded

opinion as to the nature of disease could be arrived at. Directed a continuance of the same treatment.

Dec. 24, 9 A. M.—Bowels have been very freely evacuated during the night; distention of the abdomen somewhat diminished; complains of no uneasiness upon pressure; resonance upon percussion everywhere loud, and there is no evidence of effusion. Patient moves easily in bed from one side to the other, and lies comfortably on either side. Countenance good; mind clear, and very cheerful; pulse 120; tongue slightly coated; lochia natural and abundant; no secretion of milk; secretion of urine ample, and bladder evacuated without difficulty.

R.—Hydrarg. prot. chlorid., . . gr. xij.
Pulv. gum opii, ... gr. vj.
Gum asafœtidæ, ... ʒss.
M. et ft. massa in pil. viij.
Sumat unam quoque hora sexta.

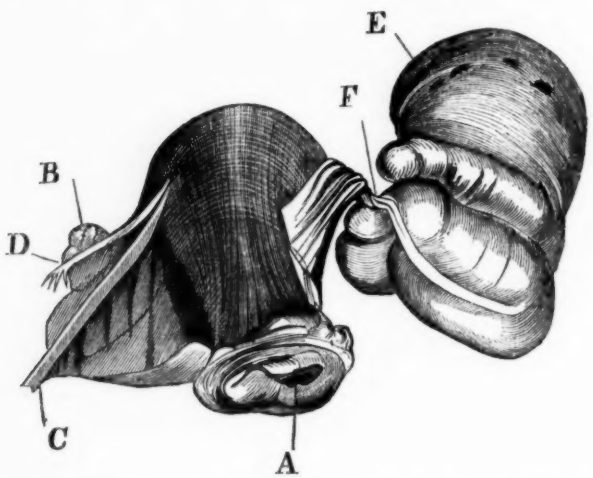
O'Beirne's tube was introduced some two and a half feet into the bowel, and a small quantity of gas escaped.

4 P. M.—Visited the patient, and found her very comfortable; she conversed very cheerfully for an hour or more. Turned easily upon the side. Pulse and other symptoms the same. This condition of things lasted until Sunday 25th, 5 P. M., when vomiting supervened. I saw her at 8 P. M., and found her in collapse. The abdomen is enormously distended. Pulse 160, and very feeble; extremities cold, skin wet and clammy; countenance pale and anxious; she continued to sink, and died on Monday 26, at five P. M., 24 hours after vomiting commenced.

A post-mortem was made by my friend Dr. Isaacs, 22 hours after death, resulting as follows:

The abdomen was enormously distended; a small puncture having been made through the anterior wall, gas freely escaped, and the size of the abdomen became diminished to about one-third. The remaining distention was produced by gas in the stomach and intestines. There were about three pints of a bloody serous fluid in the cavity of the pelvis and lower portion of the abdomen. In this fluid were several flakes of coagulable lymph. A tumor of a very dark-purple color, in fact, almost black, and about the size of the fœtal head at full term, occupied the left iliac fossa, and the left lateral portion of the pelvis. It was ascertained to be formed of the left ovary, which had become diseased, and contained a number of multilocular cysts. In the interior of all these cysts was more or less of coagulated blood,

with a quantity of thin, slightly sticky or adhesive fluid. There were *several small perforations in the walls of the cysts*, through which the bloody fluid escaped into the cavity of the peritoneum. The walls of the cysts were uncommonly thick, spongy, and vascular, and contained within their substance an unusual amount of blood. The ovarian tumor was not attached to any other organ than the uterus, and to that only by a narrow pedicle or neck, about $1\frac{1}{2}$ inches in length.



A, Os Uteri. B, Right Ovary. C, Round Ligament. D, Fallopian Tube. E, Ovarian Tumor. Three small openings or lacerations are seen on its surface, from which the fluid of the cysts escaped into the cavity of the peritoneum. F, The twist in the Pedicle, connecting the Tumor to the Uterus.

This pedicle was found to have been twisted, the tumor having evidently been turned over or revolved upon itself one and a half times, so as to nearly interrupt, or at least greatly to interfere with, the circulation of the blood in the tumor, and especially with the return of its venous blood. A small portion of the abdominal wall, which was in contact with the tumor, showed increased redness and vascularity, with some small flakes of coagulable lymph on its surface; at all other points the walls and contents of the abdomen presented nothing remarkable.

I would remark, that the existence of this tumor was unknown to the patient, and consequently to her medical attendants, as her general health had been excellent. During the progress of the case, the distention was so enormous as to preclude any possibility of recogniz-

ing the same, unless its presence had been suspected and carefully sought for. From its size, it had been evidently of long duration, being quite as large, if not larger, than the diseased ovary found in Dr. Van Beuren's case, (reported in the *New York Journal of Medicine* for March, 1851,) which was of 5 years' duration. It would therefore seem that under the presidency of a single ovary, the uterus is competent to perform its complete functions, as this was the third child of which this lady had been delivered within five years. From the history of the case, it is probable that the strangulation of the tumor took place during the night preceding the labor, and was first manifested by the peculiar "agonizing pains" in the left iliac region, &c., and that the rupture of the cysts, with escape of their contents, did not occur until 24 hours prior to death, and was followed by vomiting, cold extremities, and all the usual symptoms of collapse.

Before concluding, I must acknowledge my obligation to Mr. Baylis, of this city, for the accurate drawing of this pathological specimen.

REGULAR MEETING, MAY 15TH, 1860.

DR. HORATIO S. SMITH read an interesting and able paper on *diphtheria*, detailing at length, and with great accuracy, the history and treatment of several cases, *two* of which were deemed to be completely typical of that disease. A discussion of some interest followed, and was opened by Dr. MASON, who remarked that he considered diphtheria to be a constitutional disease, affecting the blood and the nervous system, and proving fatal in some instances from its changes produced in one or both of them, rendering them unfit to perform their part in the vital ecomomy.

In other cases death is the result of local derangement, interfering with the function of the affected organ. Dr. M. had met with several cases in which the characteristic cream-colored deposit was thrown off on the sixth or seventh day; the patients recovering after slow and prolonged convalescence.

In one case, that of an infant under two years of age, death was caused by the local effect upon the larynx, which was involved when the patient first came under observation. The prognosis was decided, and of course unfavorable, and the fatal result occurred within twenty-four hours after the first visit.

Two other cases which were described resulted in death from depression of the vital forces.

In these cases the stomach, for twenty-four or thirty hours before

death, *grew irritable, and refused to retain medicines or nutriment.* He regards this as a *most untoward symptom* in any stage of the disease.

In every instance in which he had observed this malady, it was marked by great rapidity and feebleness of the pulse. The kidneys were more or less involved, albuminuria being not unfrequently present.

Treatment.—Dr. M. relied upon the tonic and stimulant treatment. If the patient should be seen in the onset of the attack, he thinks benefit may be derived from small doses of the protochloride of mercury, given at intervals of three or four hours, for twenty-four hours. These should be followed, if not conjoined, with quinine, muriated tinct. iron, liquor chlorinii, U. S. P., four to six or more drops, three or four times per diem.

The chlorate of potass is an appropriate remedy internally, and as a wash for the throat, and should be given when patients entertain no special dislike to it, and no nausea follows its use. The caution implied in this remark applies with peculiar force in this complaint, to all remedies and nutriment. The importance of allaying or preventing that irritability of the stomach to which we are liable in this disease, cannot be too deeply impressed on the mind of the physician.

Besides the chlorate of potass as a local application, chlorine water diluted and sweetened, solutions of yeast, &c., are found soothing and beneficial. He thinks he has derived much benefit from the old-fashioned "*red-pepper gargle,*" composed of *capsicum*, common salt, vinegar, and water. The strength should be adjusted to each case. He has used the nitrate of silver, generally, perhaps in every case. In one particularly, where a relapse followed exposure to cold, and symptoms of laryngitis were induced, *great relief* was obtained by the application (as near as possible to the vocal chords) of a solution of ℥i. to the ounce.

The diet should be supporting and digestible: wine whey, beef-tea, mutton-tea, brandy and water, eggs, milk, milk punch, (if these last agree with the patient,) &c., &c., should be given; and should the stomach fail to receive and appropriate these, nutritious enemata should be faithfully used.

The regimen should comport with the general treatment; *careful* VENTILATION of the apartments should be practiced—a point, it is apprehended, too seldom regarded. All muscular and debilitating or annoying mental effort should be strictly forbidden, and cheerfulness and quiet enjoined.

DR. ENOS related a case of diphtheria, with paralysis, albuminuria, and *presbyopia.* Recovery.

M—— D——, aged 12, constitution not robust, while menstru-

ating, April 28th, 1860, for the third time, was taken with chills and sore throat. White patches soon formed on the tonsils, and after a day or two, the pharynx was also covered, and nose filled; pulse 100 to 112. Brandy, three ounces daily, and beef-tea, taken.

May 6th. The tonsils were covered for the third time, pharynx for the second; no taste, epistaxis.

16th. Weaker, wants to sleep, loathes food. Urine acid and albuminous, s. g. 1020. She was ordered to increase the brandy to half ounce every hour, and to take eight drops of the muriated tinct. of iron every four hours. No membrane on the fauces. Deglutition very difficult.

28th. Great loathing of brandy; infusion of chiretta substituted, which improved her appetite. Cannot walk. She has sensation in her limbs, but little power of motion. "Don't know where they are—they feel sleepy."

June 5th. Has partial amaurosis, with presbyopia; can read only with her mother's glasses. She has pains about her sides and joints. Urine not albuminous; pulse 112. Has great difficulty in moving her limbs, and in speaking, and in swallowing. Vision no better.

June 22d. Pulse 136; respiration 35. Had strangled almost to suffocation whilst taking a drink. The constrictor muscles of the pharynx were doubtless paralyzed, and the chink of the glottis not closed in deglutition. She was in great distress; ordered no more fluids to be swallowed, but nourished her by injecting brandy, beef-tea, &c., into the rectum every hour.

June 24th. Can swallow better; vision nearly restored. Lower limbs useless, though not entirely paralyzed.

July 1st. Sent to Newtown, L. I., where she remained until August; at which time she had gained the use of her limbs. In October she was in excellent health.

Dr. Enos thinks this paralysis is what E. Brown-Séquard calls *reflex, i. e.*, "a paralysis due to an excitation that has come to the spinal cord from a sensitive nerve;" for,

1st. The local excitation appears before the paralysis; the diphtheritic patches appeared on the tonsils, pharynx, velum, and in the nostrils, twenty days before the muscles of the velum were paralyzed, and thirty-eight days before the amaurosis with presbyopia, and partial hemiplegia, and fifty-three days before the paralysis of the constrictor muscles of the pharynx.

2d. The vision and the power of deglutition were soon restored, which would not have been the case had there been organic lesion of the nervous centres. This affection being, doubtless, a blood disease, and

attended with great debility, the nervous system, by reason of this, may yield more readily to the local excitation, than it would in the normal condition.

DR. HENRY regarded diphtheria as a constitutional disease of an asthenic character. He preferred the stimulating plan of treatment, but would not give food unless received willingly, as the assimilative power is deficient, and food would become a perturbing influence. He does not give quinine, as it acts unpleasantly upon the nervous system, and is a sedative.

DR. MITCHELL remarked that diphtheria followed the course of all meteorological diseases, the first cases being the most severe and fatal. The recent cases he had seen were milder, and required little treatment. It seems to have been carried from one family to another, yet there was little evidence of its being contagious.

DR. BURGE had recognized, among many cases of sore throat, but one in which there was the characteristic deposit. He used tonics and stimulants. His patient recovered.

DR. SMITH had seen five cases in one family and three in another. When the stomach refuses to retain food, the cases are soon fatal.

DR. SQUIBB remarked that the results of food and medicine do not seem to arrive in the blood, and suggested that the whole mucous lining of the digestive canal, in a manner similar to the throat, thus interfering with the function of assimilation.

DR. BELL had treated five severe cases; three died. In one case, a child twenty months old, debilitated by an attack of measles, the membrane had been very abundant previous to the tenth day, when there was an entire loss of relish for food, great depression, retention of urine from paralysis of the bladder, torpor of the bowels, abscesses behind the ear, boils on various parts of the body, maturing in a day or two, and death on the 17th day. Believing it to be a disease of the blood, Dr. Bell relied upon a tonic and stimulating plan of treatment, and doubted the utility of nitrate of silver and other local treatment.

The mother had her finger bitten by this child. A chill followed. The finger was swollen and hard, and the system prostrated. She was sick for five days; throat sore, but no deposit.

DR. BELL thought that local causes had much to do with the disease, and that there are many cases among the poor, reported as croup, which are diphtheria.

REGULAR MEETING, JULY 17TH, 1860.

DR. C. L. MITCHELL read a paper on "*Ergot in Spermatorrhœa, Congestion, and Irritation of the Genital Organs in the Male.*"

The first use of ergot for other than obstetric purposes seems to have been in 1840, when it was used to relieve *diarrhœa*. About one year afterwards, it was used in various hæmorrhages, more especially in hæmorrhage after labor, and menorrhagia. In 1843, it was administered in a case of chronic retention of urine in the male, it being inferred that, as it produced uterine contractions in the female, a similar effect might be expected on the muscular fibres of the bladder in the other sex. The experiment proved successful, and the patient, who for three months had been compelled to use the catheter daily, was soon cured.

My own experiments with this drug were commenced in 1845, and without the knowledge of its having been used for any other purpose than to excite uterine contraction, either before or immediately after labor, or in cases of polypi or menorrhagia.

Its efficacy in menorrhagia led me to think it operated in other ways than by exciting contraction of the uterine fibres. In cases, for example, in which the too profuse discharge was unchecked by ergot administered after the flow commenced, the desired result was obtained by commencing its administration a few days prior to the expected menstrual period. In these instances, the "turn" is usually preceded by pain in the back and in the iliac regions, and with feeling of weight or pressure in the hypogastric region; in other words, by symptoms of congestion of the uterus and ovaries. These may be so slight as scarcely to attract the attention of the patient, or they may be of great severity. They may make their appearance a few hours before menstruation, or annoy the patient for a week beforehand. Ovarian congestion occurred; the exhibition of ergot was generally followed by a relief of the symptoms.

An unmarried lady, twenty-five years of age, had for *ten years* been subject to a monthly return of extreme suffering from dysmenorrhœa. After exhausting all the professional resources which the neighborhood of her residence afforded, she came to New York for further medical assistance, and thus came under my care. The patient was tall, well formed, robust and ruddy, and presented in her whole appearance the evidences of perfect health. I was informed that the pain invariably began three days before the expected sickness, and went on increasing till the second day after the discharge had commenced. The intensity

of her sufferings was described by her married sister as worse than those of severe labor, and (although the loss of blood was slight) leaving the patient pale and exhausted. Iron, iodine, guaiac, belladonna, and many other measures, local and general, had been used, with no perceptible advantage. No preparatory treatment being necessary, I directed a vegetable and farinaceous diet, cold ablutions, and active exercise in the open air. Six days before the expected sickness, she was put upon the use of ten grains of ergot every six hours, which, after three days, was increased to ten grains every three hours, to be continued till the pain was relieved. Occasionally, a laudanum injection was administered at night, with a view to secure sleep. Under this course, the attacks became less and less severe, and the patient returned home six months after, almost well of her long-continued distressing malady.

The dysmenorrhœa in this case was not due to neuralgia, nor inflammation, nor mechanical obstruction, but to congestion of the uterus and ovaries; and by relieving the congestion, the disease was cured. This relief was obtained by the use of ergot.

As the action of ergot is chiefly directed to the *generative organs* of the female, it seemed to me a fair inference that it would produce a similar effect on the corresponding organs of the male, they being supplied with a corresponding set of nerves of like origin. I accordingly tried it in the following cases.

The first was that of a gentleman, a lawyer by profession, who applied for relief from seminal weakness. The emissions, he said, occurred chiefly at night; sometimes several nights in succession; sometimes every second or every third night. At no time were these consecutive nights passed without their appearance. Whenever they occurred, whether nightly, or at intervals of one or two nights, there were generally three emissions within six hours. They were always attended with a sense of exhaustion, a painful feeling of weariness, and extreme indisposition to make the slightest effort. For three years he had been subject to these frequent and prostrating discharges, until his gait had become feeble and infirm, his appetite was gone, his complexion pale, his eye languid and lustreless, and his expression of face so lacking in tone and energy as to suggest the idea of commencing idiocy. His professional pursuits were seriously interfered with, and almost suspended.

A carefully regulated diet, exercise, and sleep, with the use of camphor, had given but temporary alleviation, and but little if any improvement in his general health. Ergot was now resorted to, from

thirty to sixty grains being administered daily, and was followed with an immediate change for the better. The discharges diminished rapidly in quantity and frequency, the appetite improved, and the strength of mind and body perceptibly increased. In less than a month he was feeling better than he had done for a year previously. He subsequently married, and has since had but occasional returns of his complaint.

This is almost an extreme case, and the direct effect of the drug in controlling the disease and averting the threatened prostration of mind and body were too obvious to admit of question.

The second case was that of a physician, 40 years of age, practicing in the, malarious districts of Ohio and Michigan. He was a gentleman of intelligence and education, and surrounded by an interesting family. His field of practice was wide, and fatigue and exposure had made him subject to a very painful form of intermittent. To enable him to continue his duties, he warded off the attacks of his disease by opiates, until he became a confirmed opium-eater. Soon after the habitual use of opium was commenced, he became subject to frequent seminal emissions, and under the combined influence of these two causes, in less than four years he became almost imbecile. His practice was abandoned, his family scattered, and he was received as a confirmed invalid in the house of a relative, then living in Brooklyn. Several efforts were made by physicians in New York and in this city to break up his habit of taking opium, and if possible restore him to health and usefulness. He was willing to submit to any course of treatment that might be deemed best, even if the attempt should be perilous to life; consenting to be locked in a room, and to take nothing but what was given by his attendant. But every attempt to reduce the quantity of opium was followed by such alarming symptoms of sinking, that it was thought best not to persist in them.

When the patient came under my care he was much emaciated, without appetite, subject to frequent evacuations of the bowels, and so weak as to be barely able to walk slowly across the room three or four times. His mind was in such a state that he could not read five minutes without inducing distressing nervous symptoms, and he was unable to write two consecutive sentences. He had been long subject to involuntary seminal emissions, a discharge occurring at every stool, and each amounting, as he supposed, to from one-third ($\frac{1}{3}$) to one-half ($\frac{1}{2}$) a drachm.

Warned by the experience of my predecessors, a diminution of the opiate was not at first advised, but efforts were mainly directed to

building up the strength. His debility seemed too great to admit of the withdrawal of any stimulus that could contribute to his support. His diet consisted of animal broths, and such articles as his enfeebled stomach could best dispose of. Ergot was given in conjunction with camphor, to remove, if possible, the exhausting seminal emissions, and we had the gratification of seeing them entirely arrested in seven days from the commencement of the treatment.*

The third case was that of a student of medicine, about thirty years of age, who applied for relief from "stricture of the urethra," as he termed it. He complained of distressing pain about the neck of the bladder, accompanied with an irresistible desire to pass water every half hour. At times he was able to refrain for an hour. At night his rest was constantly interrupted by calls for micturition, and his sleep entirely prevented by painful erections of the penis, unless allayed by morphine in considerable doses. In evacuating the bladder, the urine dribbled away by drops, or flowed in a small cork-screw-shaped stream, with sensation of scalding. From five to ten minutes were requisite to discharge from an ounce to an ounce and a half of water. The lips of the urethra were swollen, everted, and red, and gave place to a discharge of what appeared to be viscid mucus. This attack had continued five days and nights.

He had suffered from several attacks following bilious fever, while residing at the West, a few years previously. He was then in the habit of relieving the priapism and inducing sleep by the free use of morphia, and says that, although under the care of good medical advisers in St. Louis, no remedies but opiates seemed of any avail in al-

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* To complete a report of this most interesting case, I will add that, at this stage of the treatment, a systematic reduction of his opiate was entered upon. Thinking that the system had not time to accommodate itself to a daily reduction, even though the reduction be but one drop from each dose, I made a diminution of ten drops at once, and continued the same dose until the patient felt that he had become accustomed to it; in other words, that the reduced quantity had all the sustaining effects of the original allowance. The dose was then reduced by ten drops more, and the reduced quantity continued till the wants of the system were met by it. Generally a change was made every seven days, but sometimes the same quantity was continued undiminished for ten or twelve days. Just in proportion as the opium was diminished, its place was supplied with increasing doses of quinine. In less than three months the morbid appetite was mastered, the mental wretchedness and bodily weakness had given place to cheerfulness and hope, and some degree of vigor and strength. Not long after I received a letter of three closely-written pages, which in no point evinced any mental deficiency, and giving assurance that opium was no longer a necessity to him.

laying his distress. The duration of the attacks usually extended to several weeks, the symptoms subsiding gradually.

Ergot and camphor were now prescribed, in doses of ten grains of ergot and three grains of camphor, repeated every three hours. In less than thirty minutes after the first dose, the distressing sensation about the neck of the bladder disappeared, and urine was passed freely, in a full stream, and without pain. After the third dose he felt himself, as he expressed it, "free from all inflammation of the mucous membrane of the urethra." He left the city, and three weeks after wrote "that he continues well, that he passes water naturally, and has received great benefit from the ergot in relieving the erections at night, and quieting the irritability of the bladder."

In this case the peculiar efficiency of ergot in relieving congestion was clearly demonstrated. Not only were the painful sensations of the patient promptly relieved, but the engorged state of the mucous lining of the urethra, the existence of which was obvious to the sight, quickly and completely removed.

For ten years past I have used no remedy for spermatorrhœa but ergot, and with marked success. Several of my medical friends also have used the same medicine, and, in most instances, so far as I have heard from them, with gratifying results. I would therefore suggest its use by the members of the Society, with a view more fully to determine its precise value as a curative agent in cases of debility, irritation, and congestion of the male genital organs.

MONTHLY SUMMARY OF AMERICAN MEDICAL JOURNALISM.

By O. C. Gibbs, M.D., Frewsburg, N. Y.

Diphtheria.—In the *Boston Medical and Surgical Journal* for January 24th, Dr. L. H. Angell has an article upon this subject. We make one quotation only. "Tonics and the preparations of chlorine are indicated to arrest the febrile paroxysm, and, consequently, the formation of false membrane. I have principally relied upon quinine and the chlorine mixture, and have not been disappointed in a single instance."

In the *Cincinnati Medical and Surgical News* for January, Dr. W. H. Matchett, of Ohio, has an article upon this subject. As Dr. Matchett's treatment differs somewhat from that we have previously

seen recommended, we shall attempt a synopsis of it. After moving the bowels, he trusts the case, so far as internal remedies are concerned, to quinine and *iodide of potassium*, both in tolerably full doses, and frequently repeated. In addition, he adds a generous diet. As local means, he recommends a gargle of pepper, salt, and vinegar. This is also applied by means of a swab, and then the parts are dusted with finely-pulverized borax; these local means are frequently repeated. A tar plaster is applied to the neck. Unlike Dr. Calhoon, of Georgia, referred to last month, he does not ascribe the cure to the tar plaster, but to the quinine, iodide of potassium, and nourishing diet. He does not approve of the frequent application of a strong solution of nitrate of silver to the diseased parts. He says: "The frequency with which the solution of nit. arg., of the strength of 20 grains to the ℥, is used by some physicians, is, *of itself, sufficient to produce serious difficulty.*"

Partial paralysis, after diphtheria, is not a very uncommon affection. In such cases, Prof. Pepper, of the University of Pennsylvania, makes the following prescription:

"R.—Extract of St. Ignatius' bean, . 8 grains.
Sulphate of quinia, . . 30 grains.
Vallett's mass, . . *one* drachm.—M.

To be made into 30 pills, of which one is to be given 3 times a day, after meals. At the same time electricity is to be applied to the throat."

In the *Chicago Medical Examiner*, for January, Dr. T. J. Pearce has an article upon diphtheria. He has but little confidence in topical treatment: "I think the too frequent *swabbing* has been in many cases a fruitful source of mischief." He does not object to gargles. "As an external application, when there is œdema or enlargement of the parotid or cervical glands, I have found nothing better than the free use of tinc. iodine. A domestic poultice of equal parts of *tar* and wheat bran may often prove serviceable." He, however, places greatest reliance upon general remedies: "We know of no course better than the free use of chlorate of potash, mur. tinct. ferri, and sul. quinia. The mur. tinct. ferri, I think, is generally given too sparingly." When emetics are needed, he recommends *sulphate of copper*, or, in croupal cases, *sulphate of iron*. As a gargle, he prefers the sulphate of copper in solution.

The Special Committee of the New Jersey State Medical Society, as per report in the *Medical and Surgical Reporter* for January 26th, recommend the following, which does not differ from that usually re-

lied upon: "The tinct. ferri sesquichloridi, ten to fifteen drops, in water, every three or four hours, with chlor. potassæ and quinia, and brandy with milk, chloric ether, etc., are the articles chiefly recommended." As a local application, a solution of nitrate of silver is preferred.

Before the Paris, Ill., Æsculapian Society, at a recent meeting, the subject of diphtheria was under discussion. Dr. Chambers relied upon chlorate of potash, and large doses of quinine, with the local use of nitrate of silver, "gr. 60, to the ounce of water." Dr. Tenbrook relied upon stimulants and tonics, and the solid nitrate of silver locally. Prof. N. S. Davis prefers the *tincture of iodine*, as a local application, believing it will stop the spread of the disease from the throat to contiguous parts. We quote from a report in the *Chicago Medical Examiner*, for January, the remarks of Dr. S. York: "Emetics should be used continuously; of these he prefers alum, one teaspoonful every twenty minutes until vomiting. Avoid the *too frequent application of caustics to the throat;* it produces mischievous irritation; not oftener than once every day, or every other day. When the disease has extended into the larynx and trachea, stop the local application of tincture of iodine, or nitrate of silver, (we should have observed that he prefers the tinct. of iodine.) It is then a useless annoyance. A vast majority of cases die in which there is complete aphonia known of only four recoveries from this condition. Here I give quinine very freely, with Dover's powder."

We have thus endeavored to give a *summary* of the practical portion of the papers, upon the above subject, that have come under observation in the journals for January. If any papers have been overlooked, their respective authors will please excuse us.

Hydrocele.—In the *Maryland and Virginia Medical Journal* for January, Prof. N. R. Smith has a clinical lecture upon hydrocele. In regard to treatment, he says, "I have fairly tried all the operations proposed by authoritative surgeons, and after much experience have a decided preference for the operation with the *tent.*" After describing the method of making the incision, he says, "I take a small strip of soft linen, about six inches in length by one in breadth, and with the handle of the bistoury introduce it to the bottom of the scrotal cavity." This is allowed to remain there for from twenty-four to forty-eight hours.

Disease of the Heart.—In a clinical lecture by Prof. Austin Flint, published in the *N. O. Medical News and Hospital Gazette* for January, the following is mentioned as a diagnostic symptom between or-

ganic and functional disease: "Patients affected with merely functional disorder, have their attention concentrated on the heart, and are with difficulty persuaded that they have not organic disease; while patients really affected with organic disease, are disposed to attribute their symptoms to an affection of some other organ; for example, the liver, or the stomach."

We have several times observed this, and have confidently relied upon it in practice. When we see a patient greatly exercised about a supposed heart disease, we are quite confident the disease is purely functional and sympathetic. The same remark holds good in regard to consumption. When a patient is greatly exercised through fear of phthisis, so much so as to make it a daily subject of conversation, it may be safely inferred that the patient's fears are unfounded, and the disease not tubercular.

Wild Cherry-Leaf Water.—In the *Louisville Medical News* for November, Dr. Thos. E. Jenkins has an article upon the above subject. He thinks it can be made a good substitute for the "Aqua Lauro-Cerasi" of the Ed. and Dub. Pharmacopœias. From April to October first, the amount of hydrocyanic acid which the leaves contain gradually increases. The method of preparing the water is the same as that given for the preparation of the "Aqua Lauro-Cerasi." From leaves collected in September, the amount of anhydrous prussic acid obtained from distillation, is .069 per cent.; of this, the dose is from 30 drops to two teaspoonsful. Dr. Jenkins says, "The water should be collected and preserved in small black bottles, completely filled, or a drop of sulphuric acid should be added to every pint. Our experience has been that, excluded from the air and light, its properties are well preserved."

Galt's Conical Trephine.—The *American Medical Times* for January 5th contains the report of the first trial of Dr. G. A. D. Galt's new trephine. The operation of trephining was performed by Dr. Lewis A. Sayre, of the Bellevue Hospital. We subjoin his description of the instrument. "It consists of a truncated cone with spiral peripheral teeth, and oblique crown teeth; when applied, the peripheral teeth act as wedges, so long as counteracting pressure exists on the crown teeth; upon removal, however, of that pressure by the division of the cranial walls, its tendency is to act on the principle of a screw; but owing to its conical form and the spiral direction of its peripheral teeth, its action ceases. In the construction of this instrument, it is important to preserve the *precise* relative shape of the cone given in the illustration; *the size and course of* the peripheral teeth being the same.

Upon this condition alone depends the complete success of the instrument." . . "The peculiar advantage of this trephine consists in dividing the cranial walls without any danger of wounding the membranes or the brain, whereas with the old instrument, we are in constant danger of so doing." . . "The instrument has been recently examined "by the surgical section of the Academy of Medicine, and in all the trials, it could not be made to injure the coverings of the brain with all the force that could be used, and was highly recommended by the surgeons present."

In a more recent number of the *Times* we find that this trephine is no novelty.

Antigalactic Properties of Belladonna.—We have repeatedly referred to this subject, and given the diversified experience of others, as well as that which has uniformly attended its use in our hands. In the *American Medical Times* for Jan. 12th, Prof. A. K. Gardner has a clinical lecture upon *lactatics*, in which the following remark is made upon belladonna as an antigalactic: "From my own experience I must deduce the opinion, that while belladonna exerts no influence upon the milk already in the breast, it does in some cases, although not very apparently in all, tend to diminish or suspend further secretion. A mode of employment which I have found very effectual, is smearing the watery extract thickly over the whole breast, and repeating this application immediately after washing off the previous one, drying carefully by compression, and removing by suction or otherwise as much of the milk in the breast at the time, as possible—once or twice in the twenty-four hours; or a plaster made by a cloth or kid smeared with the extract of belladonna, and with a hole for the nipple to enter, may be placed over the breast, either partially or entirely, thus allowing the breast to be drawn, or the child nursed without further trouble."

Next to the external use of belladonna, and the internal administration of the *iodide of potassium*, he regards the internal use of *sage* and *coffee* as the most efficient antigalactics. As belladonna is not always at hand, it is well to be acquainted with all remedies that possess reputed properties for the arrest of the mammary secretion.

Pessaries, &c.—In regard to the use of pessaries in the treatment of prolapsus uteri, different opinions are entertained by physicians of equal eminence and experience. We have endeavored to give the views of those who do, as well as those who do not use and recommend the pessary.

In the *American Medical Times* for Jan. 12th, Dr. P. Stewart has

an article upon this subject, in which he takes sides against the pessary. Dr. Stewart commenced practice 20 years ago, strong in the faith of the indispensability of this means of curing uterine displacements. In the last 12 years he has abandoned the pessary, and though he has treated many cases, not one remains at present unrelieved. His treatment of prolapsus consists in the direct application of astringents by means of a soft sponge, too small to serve any purpose as a pessary, and at first rest in a horizontal position. The sponge is withdrawn, cleansed, remedicated and reapplied several times a day. In addition, the general health is attended to, and a bandage is applied to the bowels. As his bandage differs from some others, we give his description. "Perhaps I might say that I regard the bandage as a *sine qua non* in the treatment. The one I use is made in the following manner: A piece of thin sole leather from eight to ten inches long, and from three to three and a half inches wide, is taken and made to fit nicely, immediately over the pubes; another soft pad is placed over the spine, corresponding to the front one, each furnished with loops; two strips of saddler's webbing pass around the hips through these loops, one above the other and fastened in front, the lower one being a little the shortest, that the pressure may be exerted from below upward. Another strap, made with rolled cotton, passes around the inside of the head of each thigh, and fastened to the other pad by means of a small ring and an elastic. There is nothing new in this treatment, and if its results should be as satisfactory to others as they have been to myself, the use of that unpleasant instrument, the pessary, would be entirely superseded."

Placenta Prævia.—The prompt and judicious treatment of the parturient hæmorrhage that is unavoidable in cases of placenta prævia, is a matter of the first importance. In the *American Medical Times* for Jan. 19th, Prof. T. G. Thomas has a clinical lecture upon the above subject. We have only room for a synopsis of treatment in cases accompanied with copious hæmorrhage.

"1st. Os dilatable, and woman not exhausted.	Deliver immediately, by version or the forceps.
2d. Os dilatable, and woman exhausted.	Detach a part of the placenta, and should this not be sufficient, the entire organ; apply styptics, and stimulate.

3d. Os rigid, and woman not exhausted.	Detach the portion of placenta nearest cervix, and, if necessary, apply styptic and tampon, or colpeurynter.
4th. Os rigid, and woman exhausted.	Detach part or whole of placenta, apply sponge saturated with perchloride of iron, and support strength by stimulants."

Consumption.—In the *Pacific Medical and Surgical Journal*, Dr. James Blake has had a series of articles on the climate of California, in its relation to the treatment of consumption. We make a few quotations from the December number. Dr. Blake does not believe in the antagonism of malarious disease and phthisis. He says, "The extraordinary opinion that once prevailed, as to the antagonism between malarious disease and phthisis, is now fortunately exploded. Amongst the vast mass of medical fallacies that have been at different times advanced, it would be difficult to find one with less foundation. According to my experience, malaria is extremely prejudicial to phthisical patients. They are very liable to be affected by it, and its effects are amongst the most unfortunate complications that can interfere with the cure." How a disease that is essentially prostrating, or an influence that will, if continued, undermine the strongest constitution, should have ever been regarded as remedial in a constitutional disease like consumption, is quite unexplainable.

He has great faith in the curative influences of mountain air. "There can be no comparison between the two climates in this respect; and as phthisis is to be attacked and cured through these organs, (the lungs,) mountain climate is always to be preferred." We cannot help thinking he attributes too much influence to elevation. Elevation is secondary to temperature. A cool, bracing atmosphere is invigorating to the digestive functions, and indirectly to the whole system. We believe that degrees of latitude are of more importance than elevation.

Like all good physicians, Dr. Blake places more reliance upon air and exercise than medicinal agents in the cure of consumption. "In my previous article on the subject of phthisis, I have shown that both an improved pathology, and the result of experience derived from a vast mass of facts, point to the open-air plan of treating the disease as that most likely to cure our patients. So strong is my faith, derived from my own experience, in its efficacy for curing the

disease, that I believe fully 75 per cent. of cases taken in hand in the second stage of the disease, cannot only be temporarily relieved, but permanently cured, by a rationally conducted open-air plan of treatment, and that at least 50 per cent. of the cases that have advanced to the third stage of the disease, or in which cavities have already begun to form, can be cured, and in nearly all of them can life be prolonged by the same treatment."

Our readers will remember that we have advocated a cool, instead of a tropical climate, for the consumptive; and out-door, and even laborious exercise, we believe preferable to cod-liver oil, hypophosphites, or any other medicinal agent.

Pathology of Spasmodic Diseases.—In the *Chicago Medical Journal*, for January, Prof. Daniel Brainard has an article on the tendency to vacuum in the cerebro-spinal cavity, which exists in certain spasmodic diseases. Without touching the argument, we quote a passage or two illustrative of his conclusions. "The tendency to vacuum, as a cause or an accompaniment of convulsive diseases, has never, as far as I am aware, been suspected, notwithstanding that facts pointing directly to it have not unfrequently been observed. The first disease in which it has been shown to exist (without being suspected) is tetanus of new-born infants." . . . . "There is strong reason to believe that trismus of new-born infants does not differ in cause or character, in general, from traumatic tetanus." . . . . "In this disease, in hydrophobia, in certain forms of insanity, in spasmodic cholera and delirium tremens, whenever *prolonged vigilance exists*, there *must* be not only a want of *normal pressure* on the brain, but a peculiar action is exerted by which the physiological pressure which causes sleep, and that which gives rise to the coma from opium, are absolutely prevented."

The indications for treatment in these diseases Prof. Brainard reserves for another paper; yet he hints that *stimulants* will be found most successful.

Constipation.—In the *Chicago Medical Journal* for January, Dr. J. C. Batdorf has an article upon constipation. There is a class of cases that he regards as the "result of excessive absorption of intestinal liquids, and a want of normal activity in the secretions of the mucous follicles of the bowels." Dr. Batdorf reports an illustrative case: "A child seven and a half months old was troubled with costiveness. Under seven months of treatment, in which cathartics played an important part, the child, at near fifteen months of age,

weighed only *six pounds*—three pounds less than at birth. The following was advised:

℞.—Ext. sarsæ., . . ℈jss.
Aquæ ferventis, . . . ℥ij.
Syrup. ipecac., . . ℥ij.
Hydrarg. bi-chlor., . grs. iij.
Syrup. simp., . . ℥ij. Mix."

Dose, a tea-spoonful, to be taken three times daily. The bowels were to be kept open with castor oil, until the prescription should produce an effect. At the end of two weeks the oil was omitted, and at the end of two weeks more the dose of the mixture was reduced one-half. At the expiration of another week, the dose was reduced to one-fourth the original dose; at the end of two weeks more it was discontinued. At this period the bowels were rather too loose. At this time the child had so gained as to weigh eighteen pounds. In the future of the case, the bowels retained their regularity, and the patient rapidly gained the health and strength of ordinary children of its age.

Inversion of the Uterus.—The case of Dr. A. Fisher *vs.* H. O. Stone, tried at Chicago, has caused a thorough sifting of this subject. On a previous occasion, we have referred to some opinions of Prof. Delamater. In the *Chicago Medical Examiner* for January, the opinions of Prof. N. S. Davis upon the causes of inversion of the uterus are given. We quote one remark upon the influence of traction upon the cord in producing inversion. "As the womb ordinarily contracts in natural labor, it is found that a force sufficient to tear the cord off will not invert it. I have sometimes made pretty firm traction on the cord, when the womb was contracting well, and seemed in good condition. I have had some cases where the after-birth was pretty strongly adherent, and rather than introduce my hand into the womb, and finding that the walls were firm, I have made as strong traction as I could without tearing it, and then carried the hand into the womb, and pulled it off with the fingers. I believe the womb, to be susceptible of inversion by traction on the cord, must be in a state of entire atony in the lower half of it, or probably the whole of it; but if it should happen that the fundus alone was contracted, at the same time that the lower part was inactive, then the pulling and the contraction would coincide to start the inversion. I can conceive of sufficient force being applied in that way with the womb in an entirely passive condition to invert it, but not when it is in an actively contracted condition."

The Rationale of the Action of Mercurials.—The *Dental Cosmos*—by-the-way, a most ably conducted journal, as well as a beautiful specimen of typographic art—has in the number for January an able article upon the above subject, by Dr. J. C. K. Crooks He says: "With the intelligent practitioner, some form of mercury has come to be considered the sheet-anchor in acute inflammations, particularly of serous and fibrous tissues. Popular prejudice *will not do* with the man who has the well-being of his patient at heart, and properly appreciates the value of this great *anti*-phlogistic remedy. When this 'trembling house of clay' is invaded by such a grave disease as an acute inflammation of one of the vital organs, bloodletting, antimony, opium, etc., may come in for their share of the triumph; but the king who can *rule* the conflict, meet the indication *best*, is mercury. This experience has taught us to be the case. Intelligently administered—given at the proper time and under proper circumstances—aided when aid is necessary, it never disappoints."

After giving the pathology of inflammation, and describing the power of remedies over it in general, and of mercury in particular, he adds: "If mercury is able to do this, how can we account for its action, save to point at what it *invariably accomplishes*, when it is able to accomplish anything—namely, to RESTORE CAPILLARY POWER? Such, undoubtedly, *is* the specific action of mercurials; and, keeping this principle in view, there will be a wonderful clearing up of many of the apparent inconsistencies, incongruities, and mysteries of their operation. Their 'alterative' effect in chronic inflammation is immediately revealed. They correct the unhealthy state of the capillaries, by causing them to contract upon their contents."

REVIEWS AND BIBLIOGRAPHY.

Proceedings and Debates of the Fourth National Quarantine and Sanitary Convention, held in the City of Boston, June 14, 15, *and* 16, 1860. Reported for the City Council of Boston. Boston: G. C. Rand & Avery. 1860. 8vo. Pp. 288.

This thin octavo, when compared with its portly predecessor, shows the effects of diminished supplies of scientific food, for which the active members of the Convention must be held responsible. The Quarantine Convention has done some good work thus far, and we hope that its future will be prolific in the same kind of effectiveness. Still,

there is something about this *thin* volume which causes us to fear lest the same want of interest, which has reduced the general usefulness of the Medical and Scientific Associations, may affect this heretofore sprightly offshoot of the two—this assemblage of the medical profession and political economists and hygeists—and curtail the extent of their labors.

The publication of the debates on the different questions before the Convention is a somewhat novel, and, to a certain extent, useful feature in this volume; but we think judicious pruning of these debates, although it would have thinned the volume, would have done no harm. We are all aware that the members of our most respectable Conventions are too prone to imitate the conduct of the members of that most unrespectable body, 'yclept Congress, and frequently speak for the sake of speaking. Such efforts should never be allowed a permanent place in the proceedings of a scientific body. While they may serve to while away a tedious hour in their perusal, they excite a general distrust in the more serious portions of the proceedings. The temptation to talk before Conventions, with those who have faculty in putting together well-rounded sentences, is too great to be overcome, especially when it is known that the ready reporter is present taking notes, and that these will be assigned a place among grave productions of learned men, thus receiving a respectable status which they could never obtain if published separately. It is right that reports, resolutions, and monographs, submitted to all our public bodies, should be thoroughly discussed by their members, before any action is had with reference to them, and before they are printed. In this way, much nonsense would be suppressed which might otherwise be printed; and as these discussions contain nonsense also, their publication should only be made when they involve some real scientific argumentation.

By way of showing the waste of space in the present volume, we have only to state the number of pages devoted to the different subjects: 101 pages to "the Proceedings"—abounding in reports of speeches, whose only value exists in the fact that they consume so many pages; 16 pages to the "Speeches at the Collation at Deer Island;" 34 pages to the "Banquet at the Revere House;" and 125 pages to the Reports and other material of permanent scientific value. Now, we must enter a quiet protest against this division of matter, which puts that of permanent value in the corner, and causes the more ornamental to occupy the most of the volume. It is very pleasant to eat a good dinner, and not at all in opposition to our sentiments to aid in drinking the health of those who deserve it, in a

glass of generous wine; and above all, in perfect accordance with our recognition of the doctrine that "one may laugh and grow fat," are we gratified with a good dinner-speech. But all this isn't science. It should die as speedily as the process of digestion is completed.

The Report on Quarantine Regulations is of very great interest. It discusses "the defects that relate to the sick and to sanitary protection," and "the deficiencies that relate to commercial transactions and public convenience," in the present quarantine regulations. The code of marine hygiene recommended seems to us in perfect conformity with our knowledge of contagious disease and its probable origin. It is prefaced by certain declarations of principles, on which the regulations of quarantine, sanitary measures, &c., are based. They state that the only diseases at present known which have required quarantine laws are plague, yellow fever, cholera, small-pox, and typhus fever. The first is left entirely to the judgment pronounced by the European Congress at Paris. We excerpt several of these "Declarations," as being calculated to show the enlightened spirit in which the whole report has been drawn up.

3. "All quarantine regulations, of any place whatever, should bear with equal force against the toleration or propagation of disease as against its introduction; and authority to prevent the introduction of disease in any place should be equally applicable against its exportation."

4. "All quarantinable diseases are chiefly introduced and propagated by the *matériel* of commerce; and it is therefore against it that quarantine restrictions should be instituted, and *not* against the *personnel;* excepting, however, persons with no evidence of vaccination, and known to have been exposed to small-pox; such persons shall be vaccinated as soon as possible, and detained until the vaccinia shall have taken effect; otherwise, they may be detained fourteen days from the time of the known exposure."

7. "The plague, yellow fever, and cholera being the only maladies that entail general measures, and place in quarantine those places whence they proceed, the restrictions enforced against these diseases shall not apply to any other suspected or diseased vessel."

The sanitary measures, on arrival from a place where either of the three diseases mentioned prevail, require that the sick on board of an infected vessel should be moved to clean, airy rooms on shore, or to a floating hospital; and it is properly stated, that "the detention of such persons in an infected ship is obviously most objectionable, and should be allowed under no circumstances whatever." The fears that

pestilential disease can be admitted by "ordinary cargoes of dry and imperishable goods" are pronounced *groundless*. "The application of sanitary measures to merchandise shall be arranged in three classes: 1. Merchandise to be submitted to an obligatory quarantine and to purification; 2. Merchandise subject to an optional quarantine; 3. Merchandise exempt from quarantine. The first class comprises clothing, bedding, personal baggage and dunnage, rags, paper, paper-rags, hides, skins, feathers, hair, and all other remains of animals, woolens, and silks. The second class comprehends cotton, linen, hemp, and *cattle*. The third class comprehends all merchandise not enumerated in the other two classes." The following hygienic measures may be ordered by the sanitary authority, as regards the vessel: "Baths and other bodily care for the *personnel;* washing or disinfecting means for clothing; displacement of merchandise on board, or a complete breaking out; subjection to high steam, incineration, or submersion at a distance in the sea of the infected articles; the destruction of tainted or spoiled food or beverages; the complete ejection of water; thorough cleansing of the hold, and the disinfection of the *well;* in short, the complete airing and ventilation of the vessel in all her parts, by the use of force-pumps, steam, fumigation, washing, rubbing, or scraping; and finally, sending to an isolated anchorage-ground."

The Report on Registration, prepared by the experienced pen of Dr. Edwin M. Snow, of Providence, R. I., gives the defects of the present laws in such of the States as have attended to this important measure, and suggests the form of an ordinance as to the registration of births, marriages, and deaths, intended to be employed wherever an incorporated city has had the power conferred upon it by the State to make laws on this subject. The close attention Dr. Snow has given this subject for some years must give his report special value to our municipal and State authorities.

The Utility and Application of Heat as a Disinfectant, by Dr. Elisha Harris, of New York, is well worth perusal. We have long since looked upon the process of refrigeration as impracticable, as a means of disinfection. The difficulty of producing artificially a low degree of temperature, by any known refrigerant mixtures, so as to affect the whole extent of a vessel or infected building, is too great, and the expense implied by the experiment too large, to induce the hope of even a trial, except where the government treasury is at the disposal of the experimenters. Besides, on any theory as to the nature of *fomites*, we are not prepared to see how the theory can be supported on a scientific basis that such fomites will be destroyed at a low tem-

perature. The difficulty is the same, whether fomites be considered of inorganic or organic nature; whether cryptogamic or animalcular. Experiments, however, have shown that a heat of 212° has destroyed *apparently* the contagious matter, be it what it may, of scarlatina, typhus, &c.; then certainly, as the application is conveniently and cheaply made, heat should be at least included in the list of such disinfectant agents as must be employed in cases of infection. Two paragraphs from Dr. Harris' report present the results of observation thus far on this subject, and the conclusions which we must derive from the same, in such a clear manner, that we transcribe them for our readers.

"If it can be demonstrated that a temporary application of heat, either by steam directly applied, or by heated air, at any temperature not higher than 212° F., will certainly and effectually disinfect all varieties of pestilent and febrile *fomites* and contaminated apartments, then it may be safely asserted that the time is near when such *fomites* and the apartments of infected vessels, hospitals, and infectious fever-chambers, or pestilential *foci* and *fomites* of every class, will be systematically and effectually disinfected by some ready method of applying such degrees of heat as may be required."

"It is not to be supposed or desired that heat will be a substitute for thorough ventilation, cleanliness, and hygienic regimen; but that its application will be resorted to when and where these essential measures of hygiene are insufficient for the removal of localized febrile infection. The localized infectious cause of yellow fever in material substances, in domiciles, or in ships; the inhering poison of puerperal, typhus, and other specific infections in hospital wards and close sick-rooms, and the immediate and safe disinfection of pestilent *fomites* of every class, require such an easily applied, controllable, and permeating agency as an elevated temperature for their purification."

Lieut. Egbert L. Viele's "Report on Civic Cleanliness and the Economical Disposition of the Refuse of Cities" is entitled to careful consideration of our municipal authorities, on account of its practical character. It abounds in suggestions arising from a careful consideration of the whole subject. Let us have cleanliness by all means, and if we can make the ejecta prove of practical value, either directly or indirectly, all necessary information on the subject should be imparted throughout the length and breadth of the land. The price of health, as well as that of liberty, is *eternal vigilance.*

Dr. C. B. Guthrie, of Tennessee, or New York, (we can't tell which, as he seems to belong to both States,) presents a Report on Restrict-

ing the Sale of Poisons. This is a much-vexed question. The idea that *all* restricting laws are interferences with the liberty of the subject, is so prevalent in our land, that it is exceedingly difficult to make our legislators understand the full extent of their duty to the public. We hope State Legislatures will take hold of this subject, and impose heavy restrictions on those who have heretofore been disposing of deadly drugs, without question or restriction, to all purchasers who may be disposed to apply for them.

In conclusion, and by way of somewhat modifying what we have said in the opening portion of this review as to the small quantity of scientific material in the volume, we may say that the reports contained in this account of the last meeting of the Quarantine Association entitle it to a place among the real contributions to hygienic science. Let its successors contain only the scientific material which has been presented, omitting the buncombe and the spread-eagle speeches. L. H. S.

Transactions of the American Medical Association for 1860. Second Notice.

The Section on Practical Medicine and Obstetrics, which one might be innocent enough to suppose would present a series of valuable papers, offers as its contribution but one, of which the subject is "The Influence of Alcoholic Drinks on the Development and Progress of Pulmonary Tuberculosis," by N. S. Davis, M.D., of Illinois. The record of the proceedings of the Section shows that one other paper was read before it, and referred back to the author. Some discussion of obstetrical subjects is noted, but no report of them is preserved.

We do not know that it would be possible to make Dr. Davis look with complacency upon any use of alcoholic drinks. From his papers, including with this some upon kindred topics, we judge that he is an uncompromising teetotaler; a man very good in his way, but not on that account the most fit person to judge of the effects of alcoholic drinks. Be that as it may, Dr. D. says, that within eight years "the idea was announced and rapidly circulated," that Bourbon whiskey and lager bier would prevent or retard the development of pulmonary tuberculosis. Immediately, he commenced a record of all his well-marked cases of tuberculosis, and this is the result of 210 such cases. Of these, 68 had used alcoholic drinks almost daily; 91 had used them occasionally; 51 had wholly abstained. Of the daily drinkers, only

15 "were such as are usually called drunkards," and 5 of these had delirium tremens when admitted to the hospital.

From these premises the author argues, that these drinks do not prevent or retard the development of tubercle, for these, in fact, are the premises, though drawn out by brief reports of several cases. But the conclusion is not logical. No one has asserted that a person who drinks alcoholic beverages will not have consumption. If such a statement *had* been made, these cases, or rather three-fourths of them, would prove it false. We do not remember to have seen or heard "the idea announced," which was the cause of the statistical record of our author; but in order to meet such a statement, observation must be made on a more extended scale. Thus, it doubtless is true that a good portion of the population of Chicago, especially of the class of poorer foreigners, from whom most of Dr. Davis' patients were drawn, drink wine, beer, or the stronger spirits, either occasionally or habitually. Now, does phthisis pulmonalis prevail among them more than among the teetotalers? Do those who are of tuberculous families develop this disease more certainly or more rapidly if they use these beverages than if they totally abstain? We do not intend to be understood to answer these inquiries in the one way or the other, but to show how the author of this paper wanders from the logical answer to the inquiry which is his text.

In fact, Dr. Davis' argument might be turned against his own position, as in this way: Of the adult population of Chicago, it is a large allowance, that *one-tenth never* drink alcoholic drinks, including wines and beer. We find in the record, that of the 210 cases, 51 were teetotalers; that is, nearly one-quarter of the patients were from a class which would be fully represented by one-tenth, 21 instead of 51.

No doubt the records were made and the paper prepared with the best of intentions, but it is our duty to point out the fact that it is illogical, and being so, it fails of its intended purpose as an argument.

May we go so far out of our way as to say that this want of logic has been the cause of many of the errors made by the leaders of the total abstinence movement? Utopian ideas of what should be and can be done, have repeatedly led them to enact laws, such as that known as the Maine law, which have been inevitably followed by a reaction, and intemperance thus been increased, not diminished. But it is always thus with enthusiasts, and we must endure this infirmity of our nature.

Leaving Dr. Davis' report, we find it is succeeded by a "Report on the Education of Imbecile and Idiotic Children," by H. P. Ayres,

M.D., Fort Wayne, Indiana, occupying 138 pages, and presenting a very good summary of the opinions of authors upon the treatment of idiocy and cretinism. It is not marked by anything particularly interesting to those familiar with these subjects; and although a useful paper, does not call for an extended notice. We wish good luck to all who undertake the improvement of these unfortunates.

The report on Inebriate Asylums, by C. McDermont, M.D., of Dayton, Ohio, follows next, and is of the same character with its predecessor; that is, it is a synopsis of the opinions of those who have written on the subject. On this subject, however, opinions are mainly theoretical, and while we hope for great results from the New York Asylum, we await the experiment with some fear. Our readers are familiar with the doctrines of the paper.

There remains the report on Medical Literature, and that on American Medical Necrology; of the latter it is only necessary to say, that it is from the pen of Dr. C. C. Cox, and therefore is well done, and that it embalms the memory of many who, having done their work, are now at rest. Of the former we must say something more.

Medical literature has before this been the subject of reports, but we like this one better than its predecessors. Marked by no partisanship, it does not strive to raise the productions of our own authors beyond their proper rank, nor does it condemn them because differing from European publications. Its catholic spirit is well illustrated by the following extract, which deserves a careful perusal:

"All medical literature, indeed all didactic literature of whatever kind, we might even add all teachings, whether literary or oral, may be divided into two great classes: the first of which comprises all those works in which new knowledge is revealed, new territory is added to the domains of established truth, whose confines are enlarged by conquests in regions of research hitherto unexplored; the second class consists of those in which the truths already known are reduced to system, or to recur to our former figure, in which the territory previously acquired or organized, each part being reduced to its proper subordination and relations to the whole; there are books in which the practical application of principles and facts previously announced is provided for by rules and specifications derived from the experience of those who have learned their necessary modifications and precise definitions by practical experiment; in such works also the history of previous discoveries in the same department of science is recounted, and the question considered how far the new must modify and be modified by the old."

The report then goes on to say, that the great body of American works belongs to this second class, but that there is no occasion for any one to feel humiliated by this fact, or to deny its truth because there are some exceptions. The defect is not in the American mind, but in the want of demand for such labors here. Our teachers are occupied in preparing young men for graduation, not in leading educated men forward into the unknown territories of theory and experiment.

Of our periodical literature the report speaks kindly and appreciatively, and the author, Dr. D. F. Wright, of Tennessee, is apparently familiar with it. His concluding sentence we repeat. "If any expression of opinion on the part of this Society can be supposed likely to alter the existing state of things, we are persuaded that it would be best directed to the purpose of enforcing upon the profession the duty of sustaining periodicals by regularly subscribing for and paying for them."

A Practical Treatise on the Ætiology, Pathology, and Treatment of the Congenital Malformations of the Rectum and Anus. By WILLIAM BODENHAMER, M.D. New York: S. S. & W. Wood. 1860.

"No complete, systematic, or practical work on the congenital malformations of the rectum and anus has ever been published in this or any other country." So says the author in the preface to the work the claims of which upon the profession we are about to analyze. The task he assigned to himself was to supply the deficiency and present a complete work. In order to do this, he has ransacked all sources for information, and has collected in this volume nearly three hundred cases of congenital malformations of this portion of the body, of various kinds and of every variety; has classified them according to a determined plan, or a natural order, and has either given the report of these cases in full, or such a synopsis of them as would suffice to present to the reader the character and extent of the malformation. The sources from which the cases have been taken are acknowledged both in the text, and in an introductory chapter on the bibliography of the subject; the reporter's name furnishing the alphabetical order. The researches of the author have extended over several centuries, for we find reference to a volume published as early as 1503, and to a case as late as 1858, nearly all the cases having been collected by the author from the original work or journal in which they first appeared.

Although the deformity, made the special subject of this volume, is

very infrequent—Mr. Collins, of Dublin, having met with it but once in 16,645 born in the Dublin Lying-in Hospital, and Dr. Lohrer, of Vienna, but twice among 50,000 births—the author has by no means exhausted the reported cases in his work. We recall one extremely interesting case, reported by Dr. C. T. Meier to this journal for June of 1859, not found among the author's collected cases. The intestine in this case was ascertained by an operation to be at a distance of three inches from the perineal wound, was drawn down and arrested by sutures to the wound in the perineum, thus establishing an artificial anus *in situ naturali*. The child lived four days after the operation. Other cases have occurred in this city where an operation has been performed, resulting in the permanent establishment of an artificial anus at the perineum. None of these cases appear in this volume, but are certainly deserving a place in the list.

The author describes nine species of malformation. 1. Preternatural narrowing of the anal orifice; 2. Occlusion by a more or less thick membrane; 3. Partial or complete absence, with the rectum terminating in a *cul-de-sac*, at a greater or less distance from the perineum; 4. Abnormal anus, the rectum partially or entirely absent; 5. Anus absent or existing in a rudimentary state, the rectum terminating preternaturally at some point in the perineum or its neighborhood; 6. Rectum terminating in the bladder, urethra, vagina, uterus, or in a cloaca in the perineum, with the urethra and vagina; 7. Preternatural termination of other organs in the rectum; 8. Entire absence of the rectum, or complete obliteration of its whole cavity; 9. Absence of rectum and colon.

Each species is separately described, and the treatment proposed by different operators for remedying the defect, and then follows the record of cases under the specified species. Under the sixth class, 85 cases are reported; and next in frequency come the third and fourth species, being, respectively, 53 and 45 in number. Of the 287 cases whose histories are given, 156 were operated upon; resulting in 87 recoveries and 69 deaths; 42 were not operated upon; 12 recovering; 11 of these being of the sixth species, and one of the fifth; 30 dying.

The closing chapter gives a history of the abdominal artificial anus as instituted by Lettré, modified and performed by Pillore, Callisen and Amussat, with illustrative cases, and also gives the method proposed by M. Martin, of Paris, that of opening the sigmoid flexure of the colon, and exploring through the opening, by means of a trocar or sound, the rectum, and either attempt to push the instrument

through the perineum from above, or cut to it from below, the exploring instrument being the guide to direct the surgeon's knife.

The volume is handsomely illustrated with sixteen fine lithographic plates, and is printed in good clean type, on excellent paper. Altogether the book is a valuable one, not so much on account of the amount of original suggestions it contains, the subject precluding that, but from the fact that it presents the most complete record of all that is known upon the subject, in a condensed form, at the command of any one who may have an interest in it, or who may be so unfortunate as to meet with a case similar to any therein recorded.

TRANSLATED FROM THE FRENCH EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.

(Translated by the Editor from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

GENTLEMEN—For several years the reports sent to the Academy of Medicine, the communications addressed to various scientific journals, have indicated that fatal epidemics of diphtheria prevailed in different parts of France, invading all departments; those of the south, as well as those of the north, of the west, and of the east. These epidemics also prevail abroad, in England, where for sixty years it has hardly been known; in America, in Germany, and in the Spanish Peninsula. The attention of the public, as well as of physicians, is more than ever aroused in relation to this dreadful calamity. The cases which have lately increased in my service afford me the opportunity of giving you my ideas upon this important subject, and it is my duty to communicate them to you. I shall, then, in a series of lectures, consider this disease, one of the most serious which afflict humanity. I do not intend to exhaust the subject, promising some day to write a treatise upon diphtheria. I shall, therefore, take up only the most practical points, illustrating them, as far as possible, by the patients we shall see together. Do not expect, gentlemen, a *résumé* of the numerous observations which have been made under your eyes. In making use of them, in sustaining my propositions by the experience of my *confrères*, and that of different authors, who have written upon the subject, I shall be chary of long histories, citing only what is necessary to make everything I say clear and comprehensible to you. I shall also insist, gentlemen, upon the necessity of a treatment the utility of which is today questioned. I shall oppose that deplorable tendency among observers of the highest order to leave the true road, which has been persevered in up to this time.

Diphtheria is a specific disease, *par excellence*, contagious in its nature, displaying itself upon the mucous membranes and the skin, and

presenting the same characteristics in both places. I say, that it shows itself upon the skin and mucous membranes, because, in fact, diphtheria has this in common with certain specific and contagious diseases, as eruptive fevers, syphilis; with this difference, however, that it affects the external teguments only when it is denuded of its epidermis. Still, the disease which we are about to study shows a marked preference for the pharynx, for the air-passages, the larynx especially, constituting the affections commonly known under the denominations of *malignant, false membranous angina*, otherwise designated *gangrenous sore throat, suffocating angina*, and now more particularly called *croup*, when the angina seizes upon the larynx. Diphtheria is frequently observed to attack the nasal mucous membrane, the buccal mucous membrane, the vagina, the prepuce, the glans penis. Of all the different forms, whether pharyngeal, laryngeal, nasal, buccal, vaginal, anal, or cutaneous, the first is by far the most common. In certain epidemics, it is this form it almost exclusively assumes, destroying those affected, by its extension to the larynx and trachea, by croup, in a very different manner from malignant diphtheria, which kills by a kind of general poisoning like septic and pestilential diseases. To this first form the attention has always been more particularly drawn, because it is the most common; it is this which has been described by the older writers, and which served as a type for the treatise on diphtheria by M. Bretonneau; it is with this that we shall commence the study we are about to undertake.

Diphtheritic Angina and Croup. (Pharyngeal and Laryngeal Diphtheria.)

Is observed in all Climates and all Seasons—Principally attacks Infants—Its Mode of Propagation—Ganglionary Engorgements—The Color and the Odor of the False Membranes Resemble that of Gangrene—Its Propagation to the Larynx—Croup—Intermittence of the Symptoms—It is generally Fatal if the Progress of the Affection is not arrested.

A young boy, four years old, in excellent health, was suddenly taken with symptoms in the throat, which at first were so slight that they did not alarm his family. After a day or two, it was noticed that he grew pale; that he was quieter than usual, and remained indifferent to his ordinary playthings. He coughed a little, but had no fever, and although his appetite was not as good as usual, he still sat up all day. Accident alone revealed the disease with which he was attacked. The family physician, who had been called to see another infant affected with epileptiform vertigo, was casually consulted for the boy. He was struck with the pallor of the skin, and perceived a slight swelling in the submaxillary region. Thus, having ascertained the existence of tumefied ganglions, he examined the throat, and found the pharynx and the tonsils quite red, while the latter were increased in size, and one of them, the right, was covered with a quite thick grayish membrane. He immediately decided that the case was one of diphtheritic angina, and acting upon this belief, he instantly cauterized the diseased part with the caustic nitrate of silver, taking care to detach the false mem-

brane by means of the nitrate. The cauterization was repeated the same evening, and the next day both morning and evening, and in the interval between the cauterizations he made, or had made, several insufflations of the powder of alum. The child was well fed, according to the express instructions of the physician, and took, besides, a tonic mixture, the base of which was the wine of cinchona. The disease was arrested, but the general pallor continued for some time, and a paralysis of the veil of the palate succeeded. The child was taken into the country, returning at the end of six weeks in perfect health.

This, gentlemen, is an example of pharyngeal diphtheritic angina; of ordinary pharyngeal angina. The insidious manner in which the disease began, the mildness of the general symptoms, the absence of fever at the time the physician ascertained the condition of the patient, the soberness of the child, the pallor of the skin, the tumefaction of the submaxillary ganglions, and finally, the presence upon the right tonsil of the characteristic false membrane, abundantly sustain the diagnosis. The paralysis of the veil of the palate, which occurred a few days after, also confirms it, and I have no doubt the energetic treatment adopted in the early stages cut short the disease, which might have extended by degrees, and having invaded the larynx, would have produced croup.

Pharyngeal diphtheritic angina is observed at all seasons, in all climates. It is not without a certain degree of astonishment that I somewhere read that this disease was seen more especially in northern countries, in cold and moist climates, and that it was almost unknown in the South of France and Italy. Whoever advanced this singular assertion,* must have had a very slight knowledge of the history of medicine, not to know that the disease described by Aretæus, and which was none other than a pseudo-membranous angina, was endemic in Egypt and Syria, whence the name of *Egyptian Ulcer and Syrian Ulcer*, which was given to it at an epoch contemporaneous with Homer rather than Hippocrates, according to M. Bretonneau, or not to know that Carnevale, Nola and Sgambati have given to us histories of epidemics of the *morbus strangulatorius* which reigned in Italy at the commencement of the 17th century; while Villareal, Fontecha, Nuñez, Herera de Heredia, Mercatus, and Tamajo observed it at the same time in Spain. At this time we see that these same sore throats prevail throughout all France, as I have already said. It would seem that in the same latitude pharyngo-tracheal diphtheria becomes developed at the time that catarrhal affections are most common.

Diphtheria spares no *age;* still, it principally attacks young subjects, and ordinarily those between the ages of three to five and six years.

It commences by a greater or less redness of the pharynx, by a swelling of the tonsils, most usually of one only; upon this is soon

* In opposition to this proposition, we recollect that an author of the last century, Wedel, has said, that diphtheritic angina, which he called *angina infantilis contagiosa*, was more frequent in Italy than in the North of Europe. "*In Italia frequentior quam apud Boreales magis Europæos.*"—*De Morb. Infant.*, cap. 20, page 77.

seen to appear a very sharply circumscribed whitish spot, at first formed by a layer resembling coagulated, semi-transparent mucus, which becomes thicker, and very rapidly takes on a membraniform consistence. This exudation, when first formed, is easily detached from the mucous membrane, to which it adheres only by very fine filaments, which penetrate the muciparous follicles.

The mucous membrane underneath is perfectly healthy, with the exception of the destruction of the epithelium; and if sometimes it appears furrowed, it is, because around the exudation it is swollen, and forms, by this means, a kind of depression. Ulceration is the exception. Generally, I repeat, the mucous membrane is healthy, or at least presents no alteration beyond an increase of vascularity, for upon detaching the false membrane with care, it can be removed without being followed by the least sign of blood. By means of the microscope, the epithelium of the mucous membrane, with its vibrating cilia, may often be seen upon its adhering surface.

After a few hours the pseudo-membrane, convex at its centre, thin at its edges, has increased; it now covers almost the whole tonsil, is adherent at the points where it first appeared, and has taken on a yellowish-white color. This color may vary from a yellowish-white to a deep yellow, to a gray, or even to a black. Then the veil of the palate usually commences to be inflamed, the uvula swells, and after a few hours more, or a day, the side of the uvula corresponding to the tonsil which is covered with a false membrane becomes covered with an exudation of the same color. Frequently, within the space of twenty-four or thirty-six hours, the entire uvula is enveloped like the finger of a glove. At the same time, a spot of the same nature appears upon the other tonsil, which is soon entirely covered by it. The bottom of the pharynx beginning to be lined upon both sides, long, narrow, longitudinal streaks of a deep-red are sometimes seen, in the midst of which are formed lines of concrete matters; sometimes membranous patches, which finally unite with each other. At this time, if the child be docile, and can be easily examined, by pressing down the tongue, the uvula, both pillars of the veil of the palate, both tonsils, and the bottom of the pharynx will be found completely covered with the coating I have just described. Portions of these false membranes can be detached by means of a pair of forceps; we have removed some in this manner, which, having enveloped the uvula, had the form of a sewing thimble.

Generally, from the commencement, the lymphatic ganglions at the angle of the jaw, those necessarily which correspond to the tonsil first attacked, are engorged. This, gentlemen, is an almost invariable symptom, which is not absent once in ten times. Its importance is then considerable, so much the more for the reason, that in ordinary angina, a disease usually of no seriousness, but which might be confounded with the disease of which we are speaking, this ganglionary engorgement is generally absent; or if it be present, it is in a much less degree than in pharyngeal diphtheria.

On the invasion of the disease, the fever is high, but it diminishes after the second day, and entirely subsides the following day, or the day after; the patient feels only a slight *malaise*, evidenced by a desire to

be at rest; a sense of feebleness; and as the only thing complained of is a difficulty often very slight, in deglutition, the beginning of the disease is not usually alarming.

Left to itself, it remains for three, four, five, or six days limited to the pharynx; the older the person, the longer the period of development, the longer it takes for the disease to invade progressively the parts within sight. If it be the fact, that false membranes form more rapidly in infants than in the adult, it is, perhaps, because the blood of the former is richer in plastic materials than the latter. It is always the case that in children of three, four, five, and six years, the two tonsils and the posterior part of the pharynx can be covered with diphtheritic concretions within thirty-six to forty-eight hours; in the adult, and particularly in old persons, five, six, seven, and eight days pass before all the parts are completely covered.

In patients whose pharynx can be well examined, the false membrane may be seen increasing each day by the addition of new layers which are formed underneath those first developed. These different layers take on a stratified arrangement. The most superficial become softened, and are easily torn; altered in their color by the food, the drink, the matters vomited, the medicines taken by the patient, by blood from the pharynx or posterior nares, these membranes become grayish, black, and resemble the detritus of gangrene. The resemblance is the greater, from the fact that, in these conditions, the false membranes putrefy and exhale a very repugnant, fœtid odor. This was the case, you may recollect, with the young girl twelve years old, we recently had under our observation in the ward St. Bernard. Her breath had an insupportable gangrenous odor, and when we removed the detritus which covered the tonsils and the veil of the palate, by means of a pledget of charpie, we found it to be composed of a grayish matter, which was very like the detritus of gangrene. And yet it was not, for when the diseased surfaces were afterwards cleaned, the mucous membranes, but a short time before covered with false membranes, appeared red, hardly excoriated, but showing no traces of gangrene.

This *appearance of gangrene* which the diphtheritic production assumes, is a point sufficiently important to be considered more particularly. It explains to us how, for a long time, diphtheritic angina was confounded with gangrenous angina, and gave rise to the names of *angina*, of *gangrenous sore throat;* names which some physicians use even at this time.

If we study diphtheritic angina in the infant and compare it with what occurs in the adult, we shall observe that the disease almost never presents the gangrenous aspect, which, on the contrary, is very frequently seen in the adult. Should we therefore conclude that gangrene is really present in diphtheria of the adult? No! These are only appearances of gangrene, and do not exist in the adult any more than in the child; there is no true gangrene, unless in exceptionally rare cases; so rare, that, in the whole course of my medical career, I have met only three examples of it. I admit it is very difficult not to believe in it. Even now, although I have so seldom witnessed gangrene in these cases, although I know when a recovery has taken place,

or when, at the autopsy, with the pathological specimens in my hand, I discover no traces of sphacelus upon the tonsils or the mucous membranes, finding only some slight excoriations, and in many cases not even these; notwithstanding this, I cannot at first, even now, disabuse myself of the idea that gangrene exists. In the young girl in the ward St. Bernard, I was sure that there was no gangrene, and you also were convinced of it; still, the extreme fœtidity of the breath, that grayish secretion which covered both tonsils, could not fail to suggest to our minds a mortification of the mucous membrane, a sphacelus of the subjacent cellular tissue, or even a deeper destruction of the tissues.

These are the reasons why diphtheritic angina has been confounded with gangrenous angina; why certain physicians still confound these two diseases; and why, in the description of epidemics of croupal angina, you still often hear of *gangrenous sore throat*, even when they were only pellicular or pseudo membranous affections.

One word more, relative to the mode of circumscription of the membranous exudations at the points upon which they are developed. Sometimes they are surrounded by a small bright-red line; sometimes they do not appear limited; and, as I remarked in the beginning of my lecture, the false membranous concretion, growing thinner at its edges, spreads out over the surrounding parts. In such a case, the tendency to spread is greater and more to be feared than in the former.

If pharyngeal diphtheritis, left to itself, does sometimes become limited to the pharynx, examples of which have been cited by M. Bretonneau, and which every one may observe in certain epidemics, it usually, however, continues to progress. In some cases it passes into the œsophagus, and reaches even to the cardiac orifice. The distinguished physician of Tours has reported two instances of this character, and Borsieri has instanced others; but almost invariably it invades the larynx and trachea, and constitutes *croup*. This is its ordinary course, the most common termination of diphtheria. In fact, we see more persons affected with this disease die of croup, than from those malignant anginas, of which I shall speak hereafter, which destroy life in the manner of septic diseases.

The propagation of the diphtheritic affection to the larynx was noticed a long time ago. Aretæus speaks of it in his chapter, *De tonsillarum ulceribus*, where you will find the first mention we have of membranous angina, which he designated under the name of *ulcera pestifera*, repeating the names of Egyptian, Syrian ulcer, by which it had been called. Read the histories of epidemics recorded in the annals of medicine, and you will see that the propagation of the disease to the larynx was perfectly well known, and that it particularly occupied the attention of physicians. Whatever name was given to it, the laryngo-tracheal affection is indicated as the cause of death, and hardly anywhere is there any mention of the malignant form of which I have just spoken.

I repeat, then, that persons affected with laryngeal diphtheria die from croup; and I speak not only of that disease which is developed in isolated cases of *sporadic diphtheria*, but also of that which takes place in a great number of cases during an epidemic.

What, then, are the symptoms of that affection called by the Spaniards and Italians of the 17th century, *garrotillo, male in canna;* by their physicians, *morbus strangulatorius;* by the Americans, at the close of the last century, *suffocating angina*, and which we to-day recognize as *croup*, a name given to it by the Scotch?

EDITORIAL AND MISCELLANEOUS.

Health of New York, Philadelphia and Baltimore, for 1860.—As our knowledge of Sanitary Science increases, it becomes a subject of special interest to ascertain whether the practical consequences of a strict obedience to its laws are as great as we had anticipated them. On this account, the annual reports of the Boards of Health in all our great cities are of special value to the student of medical statistics. We must try all our theories by their results, and thence deduce our conclusions as to their value or worthlessness. Of course the number of deaths in our growing cities must be greater and greater, as year after year passes by, as the population is increasing; still there may be a diminution of the death-rate, resulting from the adoption of sanitary means which will remove the *foci* of some diseases from such communities. The cause of public health demands eternal vigilance. No amount of money spent in proper hygienic measures in great cities is thrown away. The miserable economy that would trifle with the public health in order to diminish municipal expenses, deserves reprobation at the hands of every good citizen.

The sanitary regulations of our cities are placed in the hands of a Board of Health, deriving its powers from the State and City authorities. The curse of the political maxim, "to the victors belong the spoils," has often fallen upon these Boards, in cases where a really efficient and competent body has been ejected, not on account of unfitness for duties, but simply because their political opinions have differed from those of the reigning authorities. Independent of the fact that science and politics have about as much affinity as oil and water, this principle of ejection and appointment is really a most expensive measure. It takes a certain time for one in the health office of a large city to ascertain the duties of the same, and when he begins to work its machinery with ease so as to benefit the entire community, the political guillotine decapitates him, to make room for some hungry professional brother, not on account of superior fitness, but because the

services of the newly appointed have been more available in the caucuses of the dominant party. It is mortifying to find that all this is done by politicians, who are not supposed to know anything about medical fitness for office; and doubly mortifying to know that regularly educated physicians are to be found in all our cities, prowling around the offices of the civic authorities, clamorous for position, laying their claims upon their partisan politics. These remarks are made without any reference to the Boards of Health of the three cities whose reports are now before us, but to attract attention to the demoralizing influences partisan feelings exercise on the medical profession, and the injurious effects of the same in the administration of sanitary laws.

During the year 1860 the general summary of deaths in the three cities was as follows:

New York.....	Males.....	11,918	
	Females.....	10,792	
			22,710
Philadelphia ...	Males.....	6,109	
	Females.....	5,459	
			11,568
Baltimore.....	Males.....	2,559	
	Females.....	2,307	
			4,866

There are, however, great defects in the mortuary reports in all our cities. Registration laws have been enacted for New York and Philadelphia, which, if carried out, would enable the student of statistics to furnish very valuable material to the municipal authorities for their guidance in the passage of sanitary regulations. But in New York the execution of this law has been interfered with by the refusal of the highest authority, of one of the largest religious bodies, to obey its provisions as regards reporting the number of marriages. The returns, therefore, do not exhibit any statement of value as to this important point in registration. We are also somewhat surprised to find, from the Report of the City Inspector, that the medical profession have objected to the demands on them for a report of births. The Inspector says: "It is maintained by this class of objectors that no law is binding, or can be made compulsory on them, which exacts their time and service to the State and city without an equivalent, forgetting in this comprehensive objection that their profession receive a return in the collating and publishing of statistical information, which is an important benefit, both to that profession and to science. It is my duty, also, to record a fact of more than ordinary moment, that this humane and beneficent law for the registration of births—a

matter of so much importance to the cause of sanitary science—finds opposition among the very class whose leading spirits have been most active for some years past in this city in urging the cause of sanitary reform."

The Philadelphia Report, in striking contrast with that from New York, congratulates the citizens on the initiation of the law of registration on the 1st of July, 1860, and states that it has been to the entire satisfaction of the Board of Health. "Thus far, the law is popular, and its present success not only affords an evidence of the appreciation in which it is held by all interested, but gives encouragement for its future progress and permanency."

The Baltimore Report pronounces the mortuary returns, as at present made, as unsatisfactory, and presents a form of ordinance simply designed to insure accuracy as regards reports of deaths. It would have been better to have insisted also on reports of marriages and births.

New York reports, under the present defective method of registering births, 12,454 births during 1860, and Philadelphia 8,434 in the last six months of the same year. We hope that improved legislation will furnish us perfectly reliable data on this important subject before long.

The mortuary reports exhibit an increase over those for 1859, but this is readily accounted for by the natural increase of population. It is exceedingly difficult to get at the death-rate, unless an annual census were instituted in each of our cities. Each of those, whose reports we have examined, seems to have been free from the ravages of any special disease. The death-rate in New York has been gradually diminishing since 1851, as the following table will show:

1851	1852	1853	1854	1855	1856	1857	1858	1859	1860
3.34	2.87	2.90	3.50	2.72	2.44	2.53	2.45	2.44	2.27

The increased per centage in 1854 is accounted for by the presence of cholera. The death-rate in Philadelphia was 1.96 per cent. The death-rate is not calculated in the Baltimore Report, although a table is given which shows the mortality and causes of death for the last eleven years in that city. "The total number of deaths in 1860 was less than it has been any year since 1851, with the exception of 1859 and 1853." We regret to learn that the municipal authorities of Baltimore have seen proper to change the construction of this Board, which has shown itself to be one of the most efficient in the country. But *tempora* (that is to say, *politics*) *mutantur, nos et mutamur in illis.*

One thing strikes the student in examining these reports, and that is, the necessity of some general plan of registration and reporting, which will allow a comparison of the reports. The Sanitary Conventions, held annually, might be considered as competent for the preparation of forms which should be employed in all our cities, and the advantage of uniformity is too apparent to need any argument in its favor.

All the reports agree in noticing the diminution of the death-rate, where great attention has been paid to the sanitary conditions of our cities. We cannot remove the penalty of death which has been pronounced on man, but we may diminish the tendency to disease arising from man's inattention to cleanliness and health. Real economy demands that the sewerage of a city should be of the amplest character, and that the sewers themselves should be constructed in the best and most durable manner. Carlyle has somewhere said that the brotherhood of man is shown by the readiness with which disease is commu. nicated from the suffering lower classes to the upper, if in no other manner. If no care and attention is paid to the condition of the alleys and courts of our large towns, the retribution will be felt by the irradiation of disease from such foci, to the extreme portions of these towns. The prevention of epidemic diseases, or at least their control, depends upon the adoption of thorough sanitary measures in the obscure and too often neglected portions of towns. Dr. Goddard calls attention to the fact that the mortality has been heaviest in those wards where sanitary arrangements are defective, arising from "the character of a part of the population, the manner in which they live in crowded apartments, in narrow streets, blind courts and alleys, amid dampness and filth, without sufficient light and ventilation, badly fed and clothed; whereas, in other wards, where the population was proportionately larger, but less crowded, and enjoying more of the comforts and conveniences of life, with an adequate supply of light, and sufficient ventilation, the death-rate was comparatively low."

As regards the causes of deaths, it is very evident there will always be inaccuracy in mortuary statistics, in consequence of badly diagnosticated treatment. Our readers will recollect the curious results obtained in one of the European cities, with reference to regular and homœopathic treatment in two hospitals; the *homœoquacks* reported a large number of cures of *severe* thoracic and laryngeal affections, while the number was very small under the care of the regular practitioners, although with them cases of catarrhs were very numerous. Upon examination, *no* catarrhs were reported by the homœoquacks, but each

had been considered a *severe* thoracic affection, and *hence* the per centage of cures under homœopathy was very large. We have been struck by the report of deaths by diphtheria; in New York, 422; Philadelphia, 214; in Baltimore, 7. The number in the latter instance shows the deficiency of mortuary returns, as we happen to know of three, if not four deaths in April, but we find only one has been reported to the office. Dr. Ramsay, in the New York Report, makes the following statements as regards the disease: "It is not contagious. * * It is a curable disease in a large majority of cases." These statements are certainly open to some objection. Doubtless much has been pronounced diphtheria which would not answer Bretonneau's description of the disease, but we are far from being prepared to pronounce it strictly *not* contagious, since the cases of Drs. Frick and Adams incline us to a belief in its *contagious* (employing the word in its proper sense) character; and we are not ready to acknowledge that it is curable in a *large majority* of cases.

Dr. Ramsay, in the New York report, gives as one reason why life in that city is precarious, the excessive restlessness of its inhabitants. There is no doubt of the truth of this. We might reach a more advanced age, if we could adapt ourselves to a more quiet and steady mode of life. This constant wear and tear of brain material, which our country exacts from its citizens, must cause the animal organism to close its career in a shorter period of time, than it would were our habits freed from restless excitement and activity. Figuier, in his Scientific Annual for 1860, notices the diseases which may be attributed to the introduction of traveling by railways; and it is a curious subject for study, to see how much injury has been done by excitement and anxiety of mind, with those who are employing this mode of travel. The penalty of civilization must always be paid for in the way of diseases springing from the very improvements which are intended for the comfort or convenience of mankind.

In conclusion, we must express our gratification that the public are becoming alive to the importance of Sanitary Science, and that the reports from New York, Philadelphia, and Baltimore give assurance of this interest. We have used these reports more with the view of making some general remarks on the subject of public health, than for the purpose of review. Sanitary science is still in its infancy, but it has shown wonderful strength, and giant-like capacities. Let it be fostered and nourished by both medical and civil authorities, until all the benefits of which it is capable may be obtained by the human race.

L. H. S.

Only a Doctor.—Mr. Thackeray, in his new work entitled "Adventures of Philip on his Way through the World," has introduced these three words into a conversation held between Old Major Pendennis, who acts as foreman of a jury, and other characters in the story. They are taken by the *Medical Times and Gazette*, for January 19, as the title of a most sensible leading editorial, which we wish we could place entire before our readers. Our limited space prevents, and in place of it we give a few of our own thoughts which the words have suggested. Only a Doctor! The words are sufficiently disparaging to cause us to pause and reflect. Does the humiliating status, sneeringly insinuated in the breathing of that little word *only*, in any degree define the position of the medical profession in this country? We shall not attempt to reply to this question at the present time. It is enough for us to inquire if the medical profession occupies that relative position among the learned professions which it should? Are medical men, as a class, respected, and do their opinions have that weight with the public which their presumed intelligence, as educated men, would warrant? Let the every-day occurrences of life answer this question. Is it not a lamentable fact that our profession, having the most intimate and varied relations with every station of life, and every other branch of science and art, does not possess that high position in the minds of the public which these very relations should obtain for it? With whom rests the fault? Cannot the public appreciate the value and services of the medical man, or does the fault lie within our own body? Before accusing the public, it behooves us to inquire if the petty jealousies, the insignificant wranglings, the ungentlemanly and unchristian gossipings, the bitter backbitings, carried on within our own body, are not enough to make of a dignified and noble profession a by-word and a reproach. They who pander to the love of gossip, who prostitute their talents to disturbing the calm equanimity of the sober practitioner, who strive to array one brother against another, and never cease to stir up and foment the elements of discord, are not worthy the title of Doctor. Such there are, however, whose principal delight appears to be—as it was that of Satan in Paradise—to blight and wither the influence of the noblest profession on earth. They are the ones who bring discredit upon the profession, and hedge in the glorious patrimony which truth, honesty, and intellect give to every one who follows in the footsteps of the Good Physician. He who by word or deed, directly or indirectly, strives to injure his professional brother, degrades both himself and his profession, and must not be surprised if he is weighed by a not

overindulgent public in the same balance in which he has weighed others.

If, then, we wish others to respect us, we must respect ourselves. Before we talk of an inappreciative public, we must appreciate ourselves. Gossips must be avoided, wranglings given over to the bar, the fomenters of disturbances banished, and the vile fabricators of slanderous tales shunned as a pestilence worse than the seven plagues of Egypt.

— The publications of the New Sydenham Society for 1860 were shipped from London several weeks ago, but have not been heard from since. Immediately upon their arrival, the Secretary for New York, Dr. C. F. Heywood, will give notice of the fact, and distribute without delay.

Commencement Exercises in Medical Colleges.—The Medical Department of the N. Y. University held its Twenty-fourth Annual Commencement on the 4th of March. There were 129 graduates, the number of matriculants being 420. The different prizes were awarded as follows: The Gold Mott Medal to Eugene S. Olcott, of New York, for the best dried anatomical preparation; the Bronze Mott Medal to M. J. Moses, of Georgia, for the best record of Dr. Mott's clinical lectures; the Metcalfe prizes to Wm. R. Reypen and Alex. R. Gebbie, for the best reports of this professor's clinical lectures; and the Van Buren Prizes to John D. Murphy and Wm. R. Reypen. Prof. A. C. Post delivered the address to the graduating class.

The New York Medical College held its Eleventh Annual Commencement on the 13th inst. There were seventeen graduates in course, and the honorary degree of M.D. was conferred upon Manuel de Aquiar and D. Pedro Peralt, both of Cuba. The Van Arsdale prizes for the best Theses were awarded to Elnathan Steele and J. H. Guild. Professor B. I. Raphael delivered the address to the graduating class.

The Fifty-fourth Annual Commencement of the College of Physicians and Surgeons took place on the evening of the 14th of March. The degree of M.D. was conferred on 62 young gentlemen. The number of matriculants during the last session reached 264. The President of the College, Dr. Delafield, delivered an address upon the life and character of Dr. Samuel Bard, the first President of the College. Dr. Henry M. Lyman, one of the graduates, delivered the valedictory address. The prizes for the best Theses were awarded to Mans. R. Vedder, of Schenectady, N. Y., and Chas. Carter, of New

York City. The Harsen prize was awarded to John Shrady, of New York City, and another prize to John Elderkin, of New York City.

Dr. Thomas W. Blatchford, of Troy, addressed the graduates.

The Wood and Mott Prizes were awarded at Bellevue Hospital on the 14th of March. The first Wood prize, for the best anatomical specimen, was presented to James B. Cutter, of the Long Island College Hospital, and the second to John Shrady, Jr., of the College of Physicians and Surgeons. The Mott prize was not awarded, but a case of post-mortem instruments was presented to Mr. Eugene S. Olcott, as a token of appreciative regard from the founder of the prize in question.

The ninth anniversary of the New York Ophthalmic School was held February 25th. The class during the last session numbered over 30 students and physicians. Dr. J. P. Garrish, one of the Surgeons of the Institution, delivered an address to the class, and Dr. J. L. Kiernan, one of the class, pronounced the valedictory.

At the Annual Commencement of the Medical Departmnet of Pennsylvania College, held in Philadelphia on Saturday, March 2d, the President, Rev. Dr. Baugher, conferred the degree of Doctor of Medicine on thirty-eight graduates. The *ad eundem* degree was conferred on eight, and the honorary degree on one practitioner of medicine.

The valedictory was pronounced by Prof. B. Howard Rand, M.D.

The Annual Commencement of the Jefferson Medical College took place on Saturday, March 9th. Hon. Edward King, LL.D., President of the institution, conferred the degree of Doctor of Medicine on 186 graduates.

Professor Dunglison, Dean of the Faculty, cordially congratulated the class on the distinction they had attained. The valedictory address was delivered by Prof. Thomas D. Mitchell.

The Jefferson College had 443 matriculants this year.

The Commencement exercises of the Medical Department of the University of Pennsylvania was held on Thursday, March 14th. The Chancellor, Rev. Dr. Goodwin, conferred the degree of Doctor of Medicine on 175 graduates. Of these, 84 were from the free, 87 from the slave States, and 4 were from foreign countries.

The valedictory address was given by Prof. Rogers.

This department of the University had 465 matriculants.

It will be seen from the above, that in spite of the troublous times in the political and financial worlds, the great medical schools of the country have had a very successful season.

The Annual Commencement of the Philadelphia College of Pharmacy was held on Thursday evening. The degree of Graduate in Pharmacy was conferred on forty young men.

— At the Commencement of the St. Louis Medical College, held on the 22d ult., the degree of Doctor of Medicine was conferred on 52 young men. The valedictory was delivered by Dr. Charles W. Stevens.

— Dr. Isaac Wood has been appointed President of the Medical Board of Bellevue Hospital, New York, and Dr. John T. Metcalfe has been appointed to the vacancy occasioned by the death of Dr. John W. Francis.

— We learn that Dr. J. O. Bronson has resigned his Professorship of Anatomy in the N. Y. Medical College and Charity Hospital.

— A new medical journal is to be established in Portland, Oregon.

Physicians in the United States.—According to the *Nashville Medical Journal*, the number of physicians in the United States amounts to 40,481. In Massachusetts there is one physician to 605 inhabitants; in New York, one to 611; in Pennsylvania, one to 561; in North Carolina, one to 802; in Ohio, one to 465; in Maine, one to 884; and in California, one to 860. These facts may be of interest to recent graduates.

— The lectures on Diphtheria by M. Trousseau will be continued in future numbers of the MONTHLY. The authority of the distinguished professor of Hôtel Dieu upon this subject gives to these lectures more than ordinary value. The titles of the lectures, as given in his recent work, "Clinique Médicale de L'Hôtel Dieu," are Malignant Diphtheritis; Different Localizations of Diphtheria; Buccal Diphtheria; Nature, Contagion, Alteration of the Blood, Albuminuria; Diphtheritic Paralysis; Treatment of Diphtheria and of Croup; Tracheotomy. We shall give all, or such portions of each of these lectures as we think will best suit the desires of our readers.

American Medical Association.—The Fourteenth Annual Meeting of the American Medical Association will be held in Metropolitan Hall, city of Chicago, commencing on the *first* Tuesday in June next.

Each regularly organized Medical Society is entitled to send one delegate for every ten of its members; and each Medical College is entitled to two delegates. It is desired that the names of delegates should be forwarded to the undersigned, as soon after their appointment as practicable.

H. A. JOHNSON,
Assistant Secretary.

Chicago, Feb. 1st, 1861.